

Pantheon Report

Generated at 2018-09-11 20:13:44 (UTC).

Data path: GCE Tokyo on `ens4` (*remote*) → GCE Sydney on `ens4` (*local*).

Repeated the test of 18 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

NTP offsets were measured against `time.google.com` and have been applied to correct the timestamps in logs.

System info:

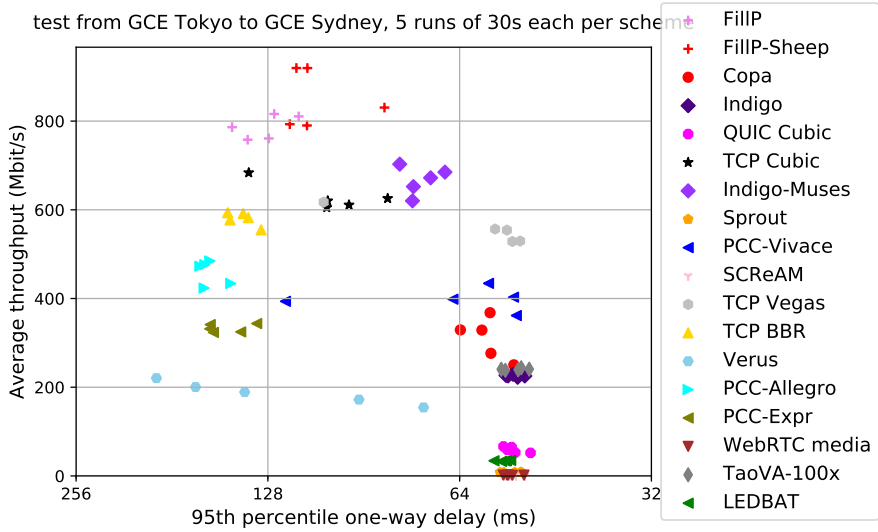
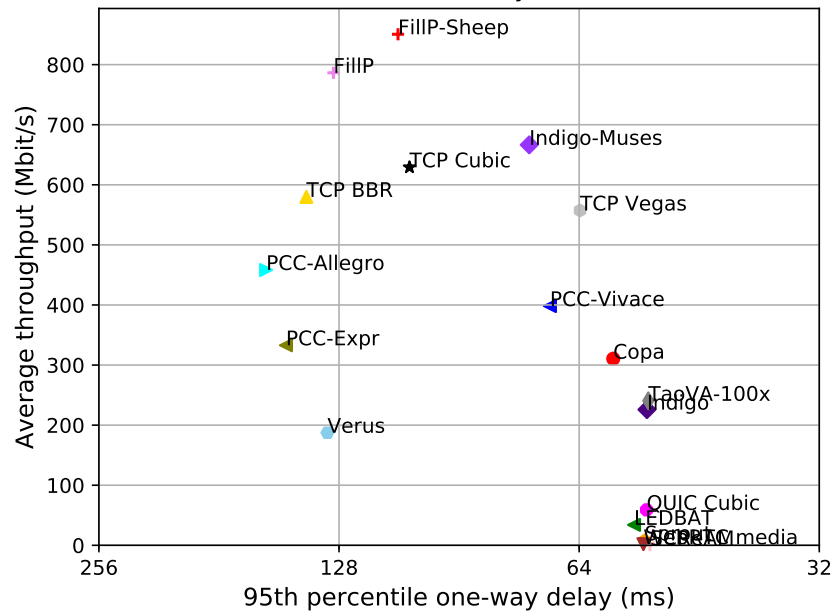
```
Linux 4.15.0-1018-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
net.ipv4.tcp_mem = 190986 254651 381972
```

Git summary:

```
branch: muses @ f30bceca2aec2ef14a3cf71e25642f4a30905a03
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ cbfce6db5ff5740dafa1771f813cd646339e1952
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
```

third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

test from GCE Tokyo to GCE Sydney, 5 runs of 30s each per scheme
(mean of all runs by scheme)



scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	579.85	140.65	0.84
Copa	5	310.58	58.00	0.34
TCP Cubic	5	629.14	104.44	0.44
FillP	5	786.39	130.10	5.58
FillP-Sheep	5	850.56	107.96	1.07
Indigo	5	225.87	52.62	0.36
LEDBAT	5	34.00	54.62	0.49
Indigo-Muses	5	666.51	73.92	0.39
PCC-Allegro	5	458.24	157.97	1.96
PCC-Expr	5	332.90	149.20	3.73
QUIC Cubic	5	58.95	52.68	0.61
SCReAM	5	0.21	52.17	0.36
Sprout	5	8.13	52.97	0.33
TaoVA-100x	5	240.46	52.42	0.33
TCP Vegas	5	557.28	63.84	0.31
Verus	5	187.30	132.38	1.28
PCC-Vivace	5	398.16	69.64	0.36
WebRTC media	5	1.87	53.17	0.41

Run 1: Statistics of TCP BBR

Start at: 2018-09-11 16:33:43

End at: 2018-09-11 16:34:13

Local clock offset: 0.007 ms

Remote clock offset: -1.102 ms

Below is generated by plot.py at 2018-09-11 18:45:31

Datalink statistics

-- Total of 1 flow:

Average throughput: 593.44 Mbit/s

95th percentile per-packet one-way delay: 148.020 ms

Loss rate: 0.94%

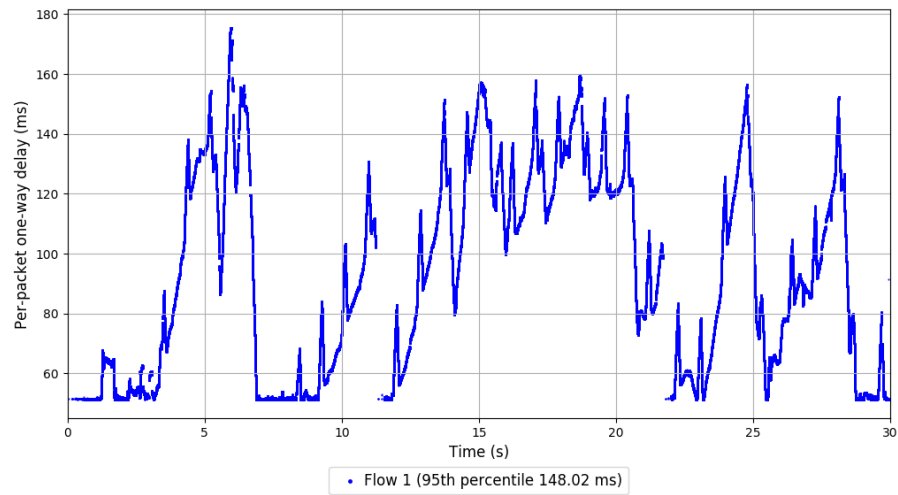
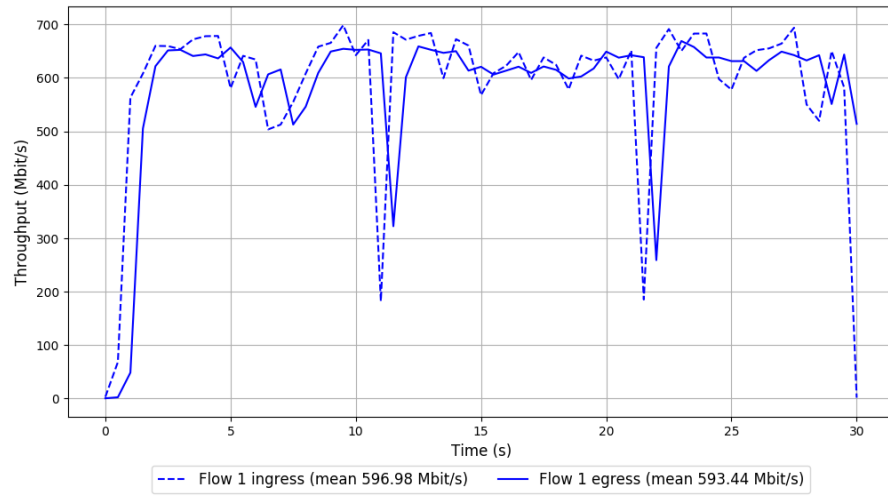
-- Flow 1:

Average throughput: 593.44 Mbit/s

95th percentile per-packet one-way delay: 148.020 ms

Loss rate: 0.94%

Run 1: Report of TCP BBR — Data Link

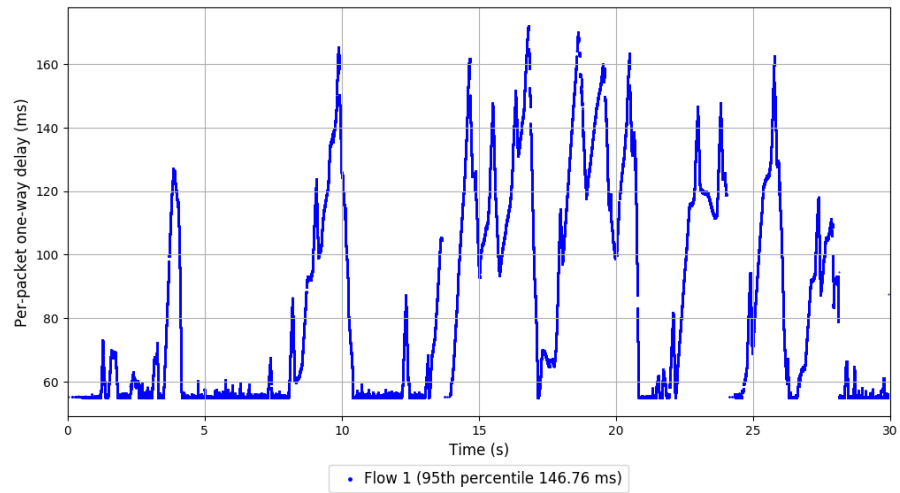
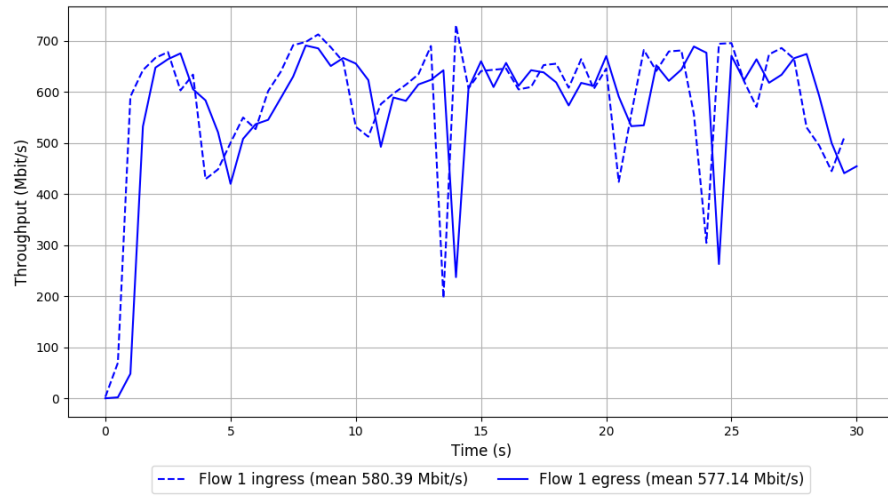


Run 2: Statistics of TCP BBR

Start at: 2018-09-11 16:59:47
End at: 2018-09-11 17:00:17
Local clock offset: 0.091 ms
Remote clock offset: -1.474 ms

Below is generated by plot.py at 2018-09-11 18:45:31
Datalink statistics
-- Total of 1 flow:
Average throughput: 577.14 Mbit/s
95th percentile per-packet one-way delay: 146.763 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 577.14 Mbit/s
95th percentile per-packet one-way delay: 146.763 ms
Loss rate: 0.83%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-09-11 17:25:54

End at: 2018-09-11 17:26:24

Local clock offset: 0.028 ms

Remote clock offset: 0.002 ms

Below is generated by plot.py at 2018-09-11 18:45:31

Datalink statistics

-- Total of 1 flow:

Average throughput: 582.29 Mbit/s

95th percentile per-packet one-way delay: 137.397 ms

Loss rate: 0.81%

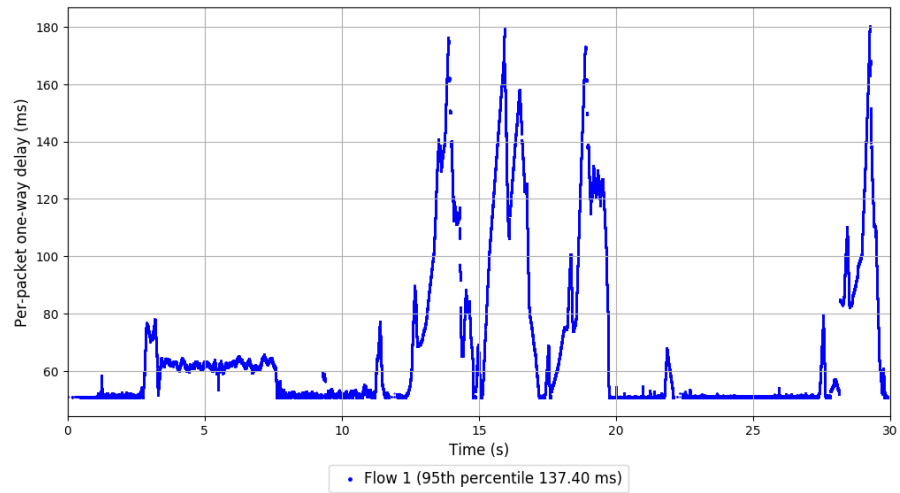
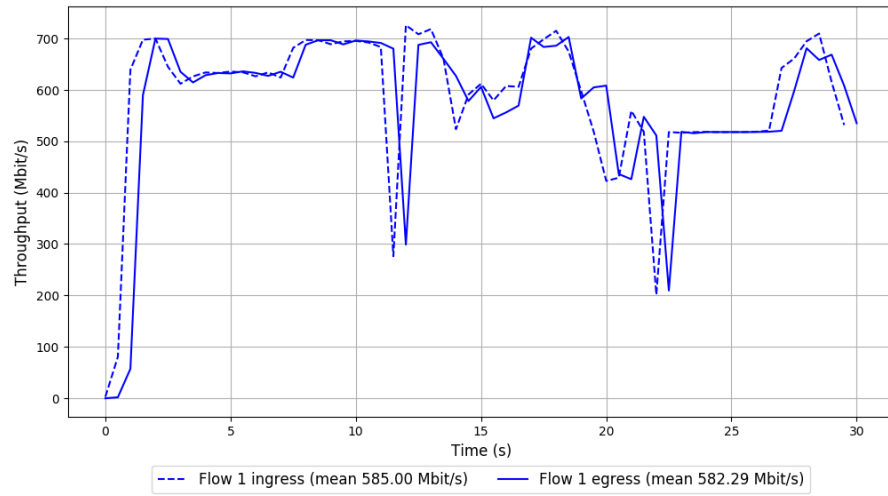
-- Flow 1:

Average throughput: 582.29 Mbit/s

95th percentile per-packet one-way delay: 137.397 ms

Loss rate: 0.81%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-09-11 17:52:07

End at: 2018-09-11 17:52:37

Local clock offset: -0.086 ms

Remote clock offset: 0.975 ms

Below is generated by plot.py at 2018-09-11 18:45:31

Datalink statistics

-- Total of 1 flow:

Average throughput: 554.75 Mbit/s

95th percentile per-packet one-way delay: 131.147 ms

Loss rate: 0.84%

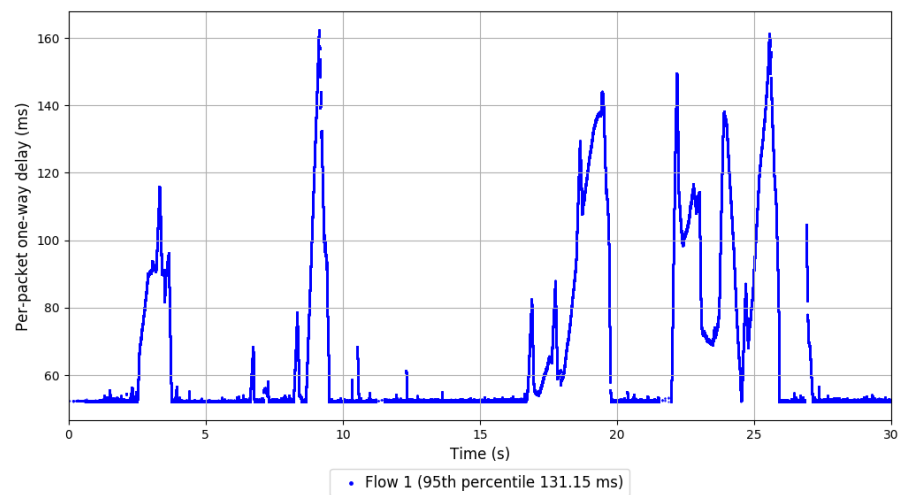
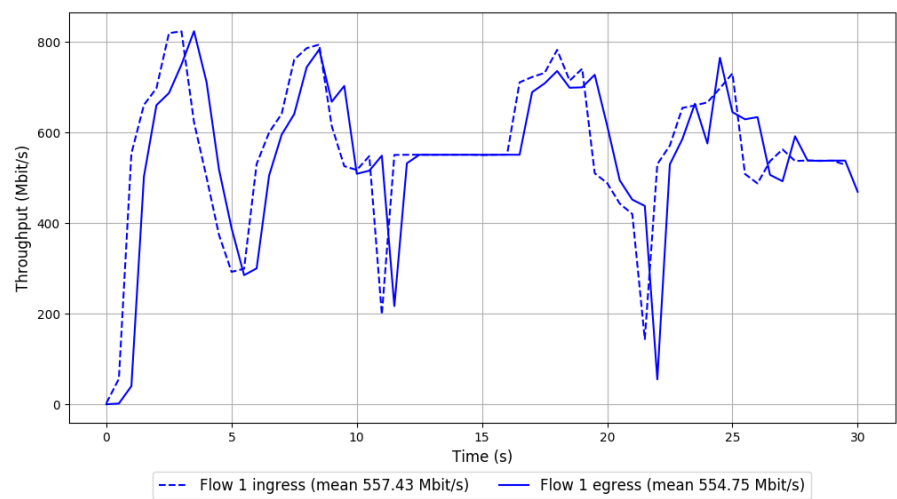
-- Flow 1:

Average throughput: 554.75 Mbit/s

95th percentile per-packet one-way delay: 131.147 ms

Loss rate: 0.84%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2018-09-11 18:18:23

End at: 2018-09-11 18:18:53

Local clock offset: 0.188 ms

Remote clock offset: -0.807 ms

Below is generated by plot.py at 2018-09-11 18:45:31

Datalink statistics

-- Total of 1 flow:

Average throughput: 591.63 Mbit/s

95th percentile per-packet one-way delay: 139.924 ms

Loss rate: 0.76%

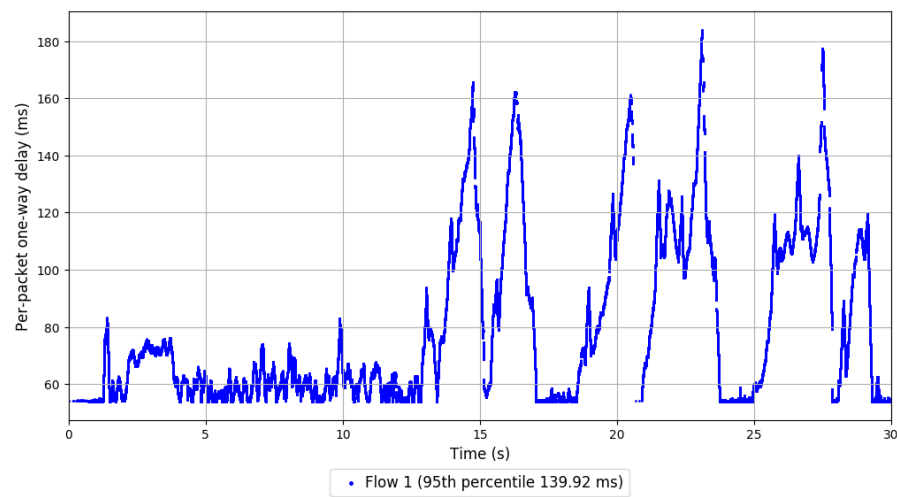
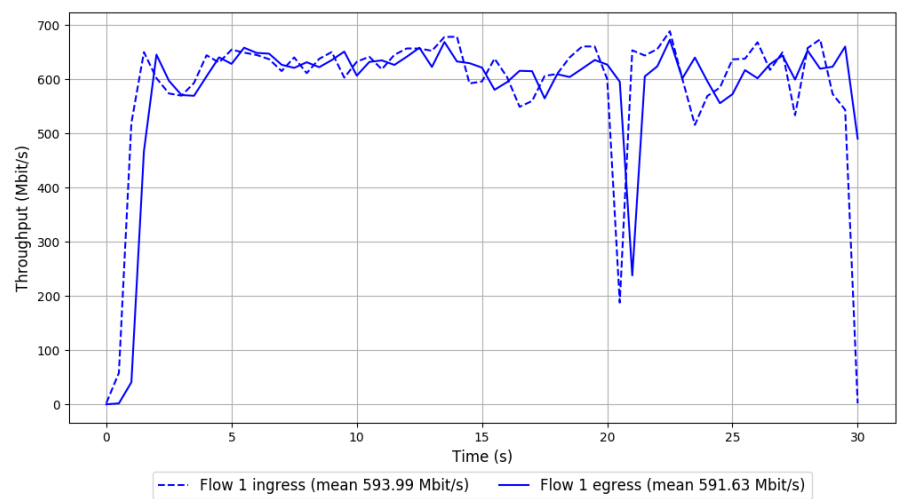
-- Flow 1:

Average throughput: 591.63 Mbit/s

95th percentile per-packet one-way delay: 139.924 ms

Loss rate: 0.76%

Run 5: Report of TCP BBR — Data Link

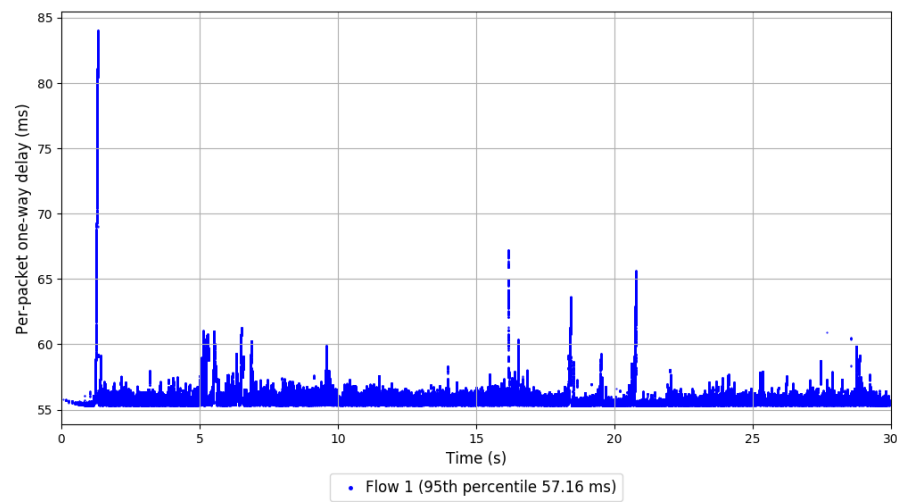
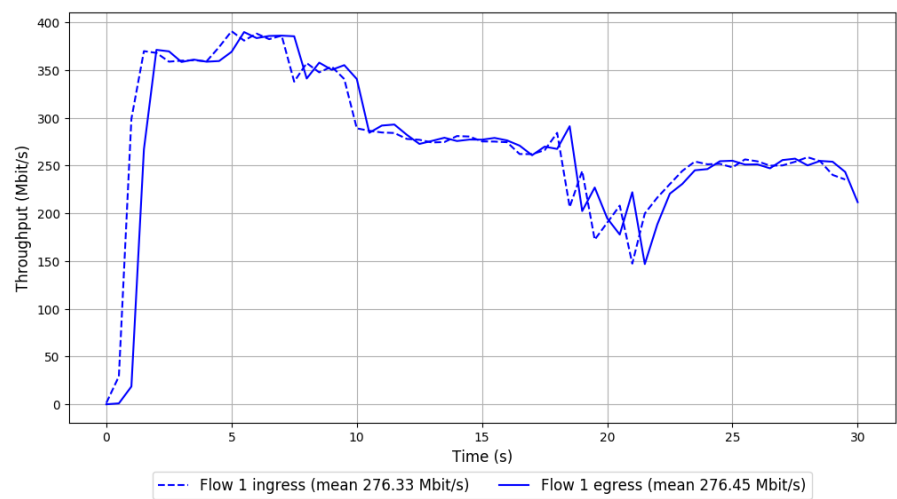


Run 1: Statistics of Copa

Start at: 2018-09-11 16:27:32
End at: 2018-09-11 16:28:02
Local clock offset: 0.108 ms
Remote clock offset: -1.578 ms

Below is generated by plot.py at 2018-09-11 18:45:31
Datalink statistics
-- Total of 1 flow:
Average throughput: 276.45 Mbit/s
95th percentile per-packet one-way delay: 57.165 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 276.45 Mbit/s
95th percentile per-packet one-way delay: 57.165 ms
Loss rate: 0.31%

Run 1: Report of Copa — Data Link

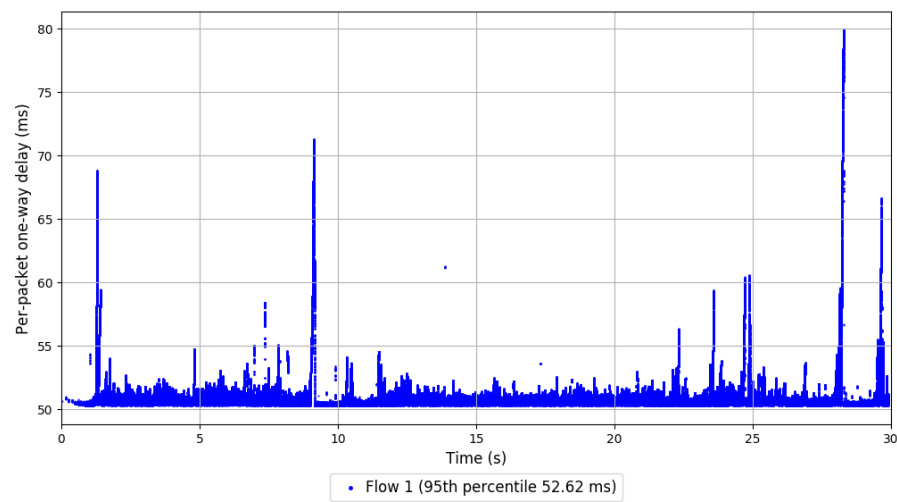
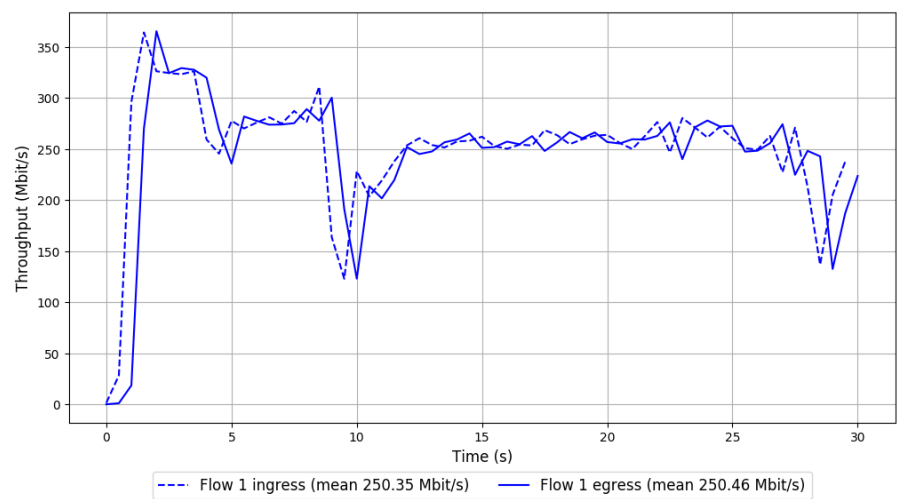


Run 2: Statistics of Copa

Start at: 2018-09-11 16:53:37
End at: 2018-09-11 16:54:07
Local clock offset: 0.081 ms
Remote clock offset: -0.174 ms

Below is generated by plot.py at 2018-09-11 18:45:31
Datalink statistics
-- Total of 1 flow:
Average throughput: 250.46 Mbit/s
95th percentile per-packet one-way delay: 52.617 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 250.46 Mbit/s
95th percentile per-packet one-way delay: 52.617 ms
Loss rate: 0.31%

Run 2: Report of Copa — Data Link

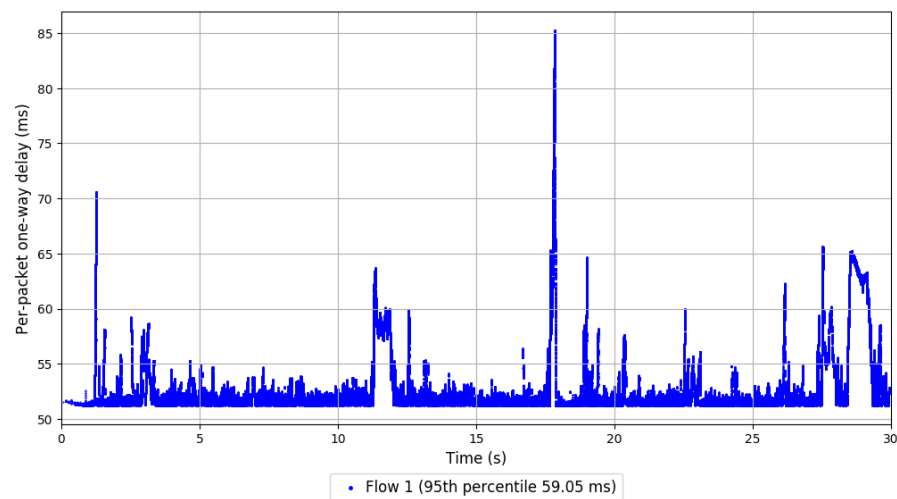
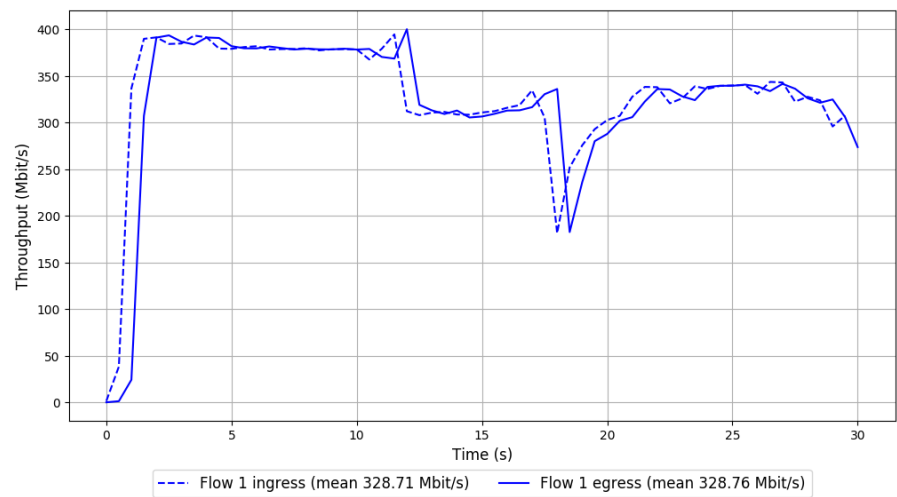


Run 3: Statistics of Copa

Start at: 2018-09-11 17:19:38
End at: 2018-09-11 17:20:08
Local clock offset: -0.278 ms
Remote clock offset: -1.433 ms

Below is generated by plot.py at 2018-09-11 18:45:46
Datalink statistics
-- Total of 1 flow:
Average throughput: 328.76 Mbit/s
95th percentile per-packet one-way delay: 59.054 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 328.76 Mbit/s
95th percentile per-packet one-way delay: 59.054 ms
Loss rate: 0.33%

Run 3: Report of Copa — Data Link

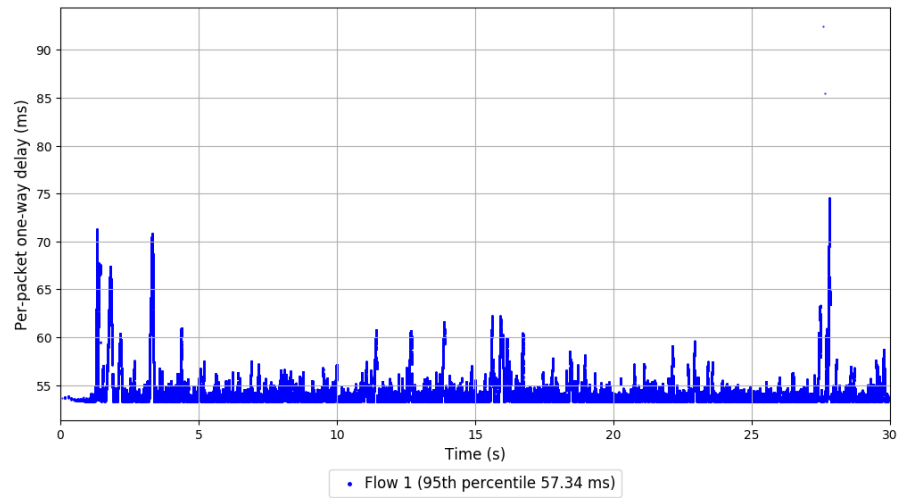
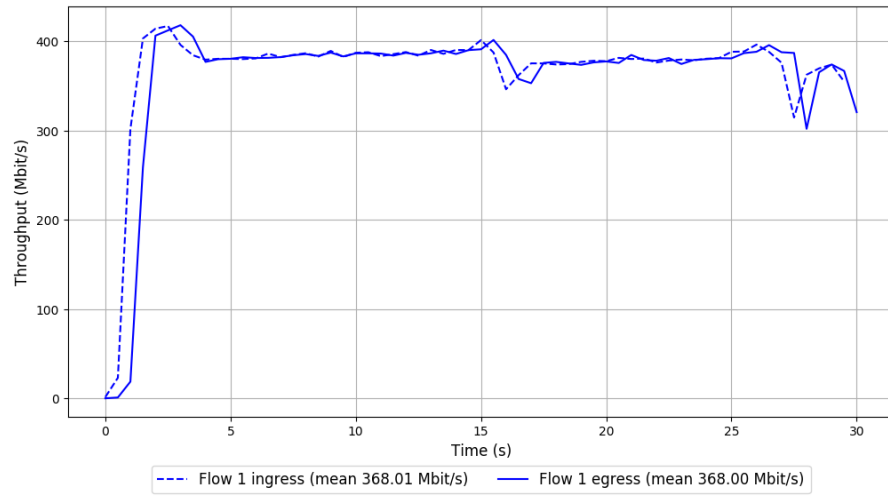


Run 4: Statistics of Copa

Start at: 2018-09-11 17:45:49
End at: 2018-09-11 17:46:19
Local clock offset: 0.139 ms
Remote clock offset: -0.036 ms

Below is generated by plot.py at 2018-09-11 18:56:03
Datalink statistics
-- Total of 1 flow:
Average throughput: 368.00 Mbit/s
95th percentile per-packet one-way delay: 57.340 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 368.00 Mbit/s
95th percentile per-packet one-way delay: 57.340 ms
Loss rate: 0.36%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-09-11 18:12:07

End at: 2018-09-11 18:12:37

Local clock offset: -0.083 ms

Remote clock offset: 1.008 ms

Below is generated by plot.py at 2018-09-11 18:56:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 329.21 Mbit/s

95th percentile per-packet one-way delay: 63.834 ms

Loss rate: 0.40%

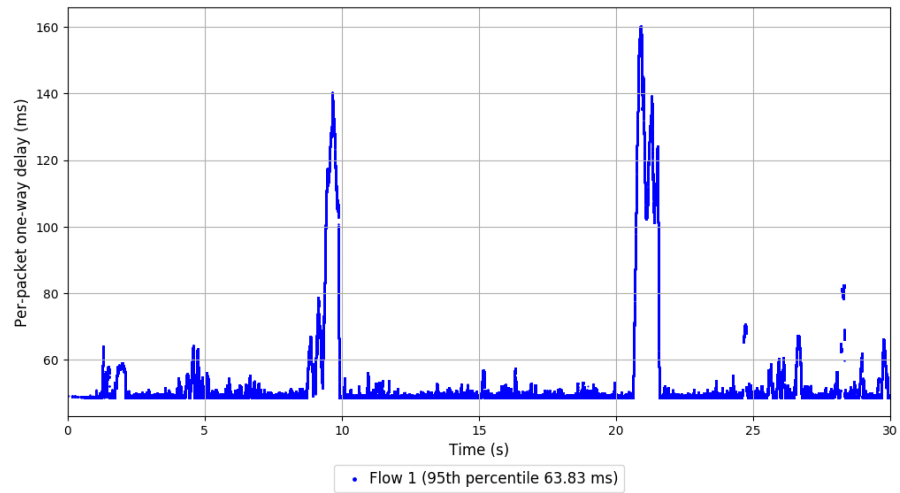
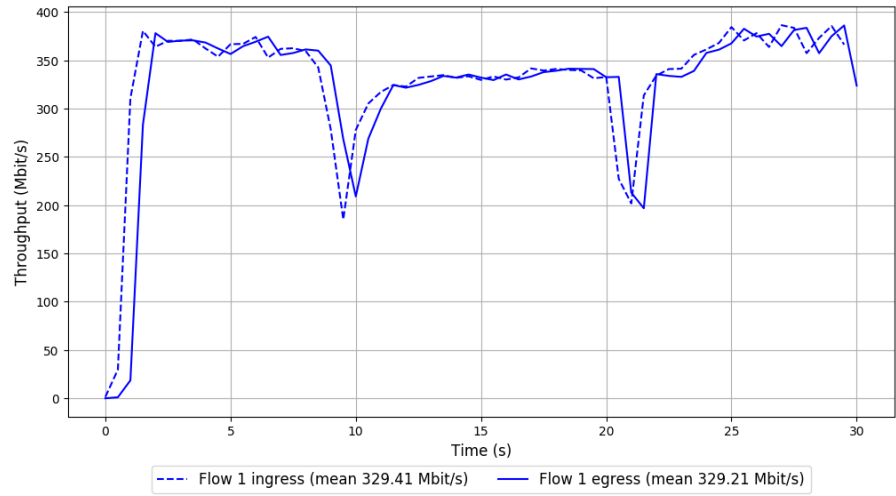
-- Flow 1:

Average throughput: 329.21 Mbit/s

95th percentile per-packet one-way delay: 63.834 ms

Loss rate: 0.40%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-09-11 16:20:13

End at: 2018-09-11 16:20:43

Local clock offset: -0.061 ms

Remote clock offset: 0.52 ms

Below is generated by plot.py at 2018-09-11 18:56:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 611.02 Mbit/s

95th percentile per-packet one-way delay: 95.462 ms

Loss rate: 0.47%

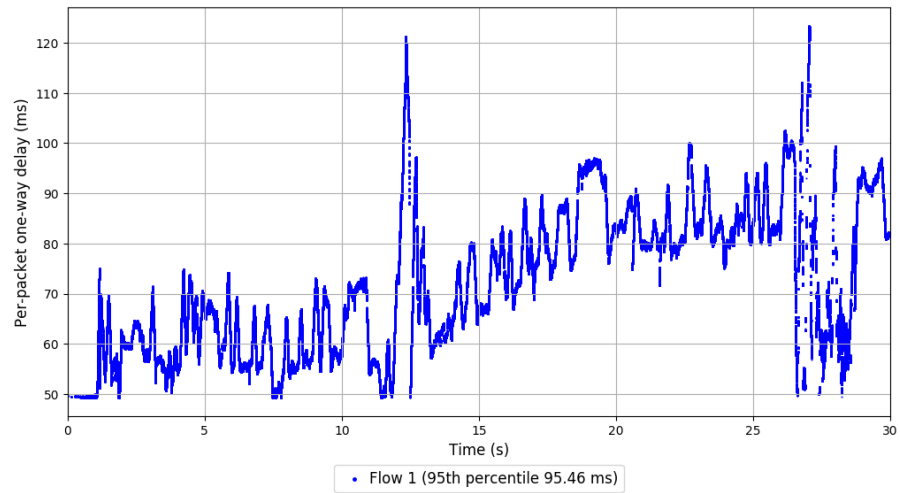
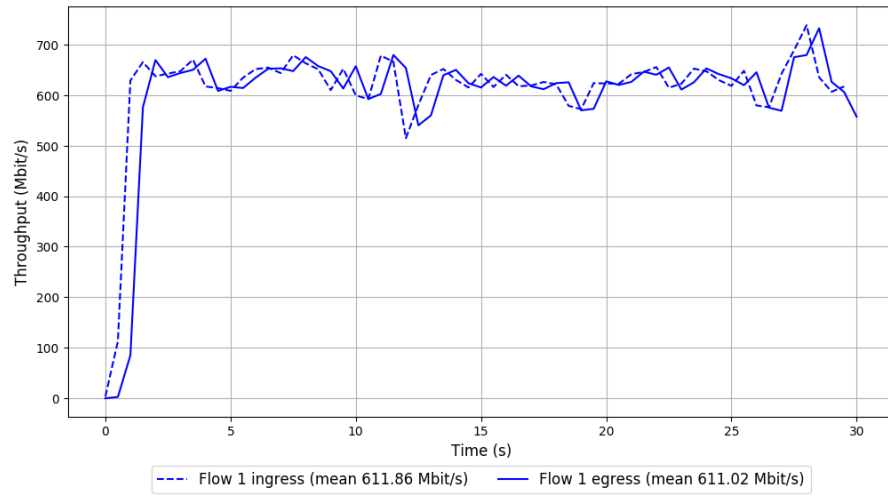
-- Flow 1:

Average throughput: 611.02 Mbit/s

95th percentile per-packet one-way delay: 95.462 ms

Loss rate: 0.47%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-09-11 16:46:11

End at: 2018-09-11 16:46:41

Local clock offset: -0.09 ms

Remote clock offset: 0.192 ms

Below is generated by plot.py at 2018-09-11 18:56:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 625.61 Mbit/s

95th percentile per-packet one-way delay: 83.018 ms

Loss rate: 0.38%

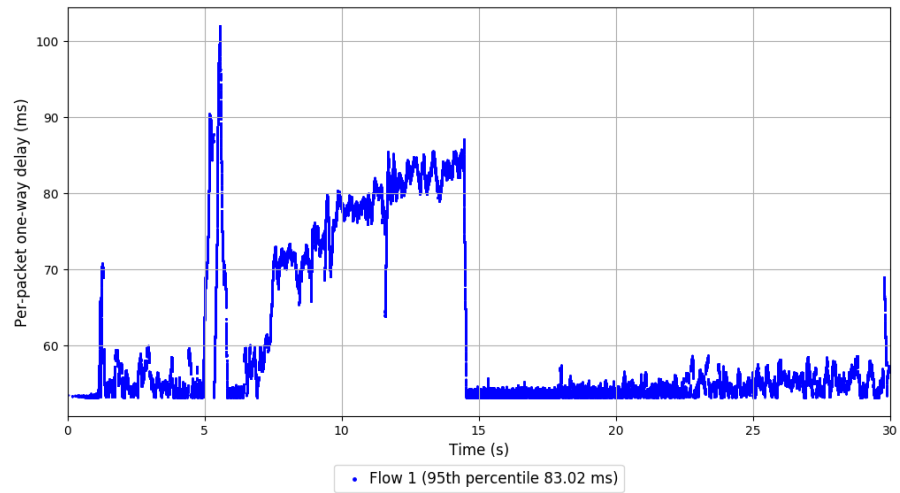
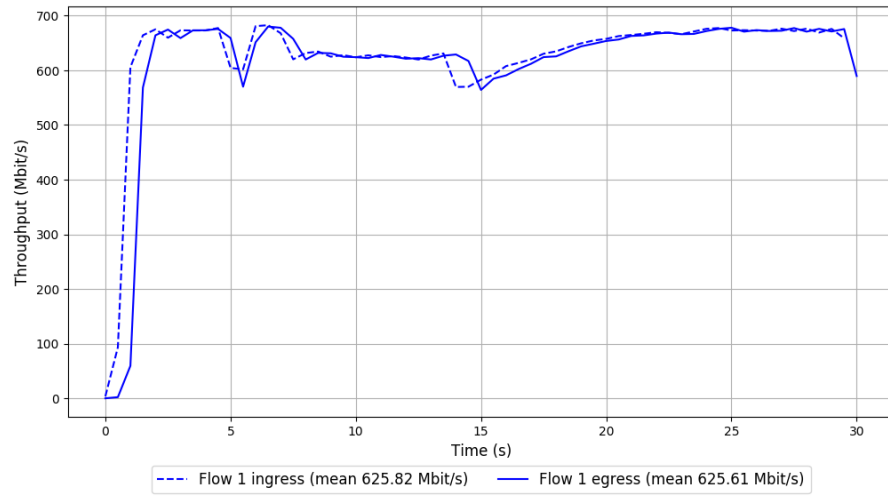
-- Flow 1:

Average throughput: 625.61 Mbit/s

95th percentile per-packet one-way delay: 83.018 ms

Loss rate: 0.38%

Run 2: Report of TCP Cubic — Data Link

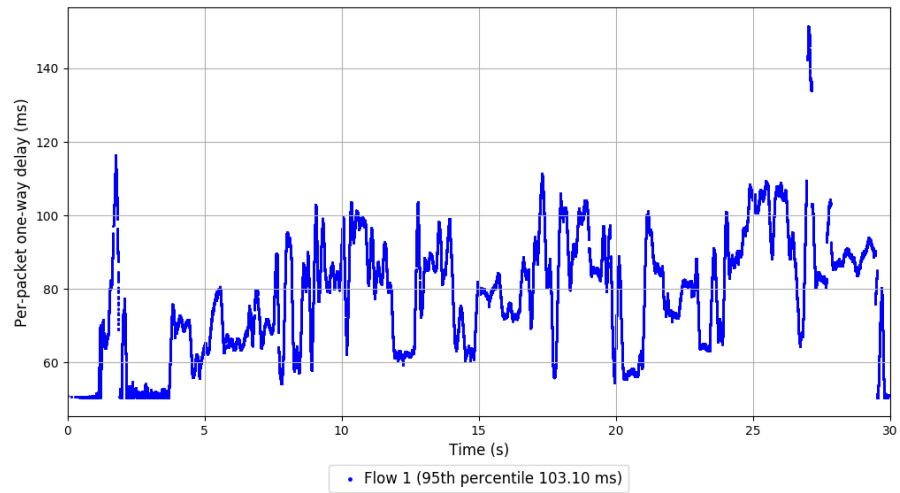
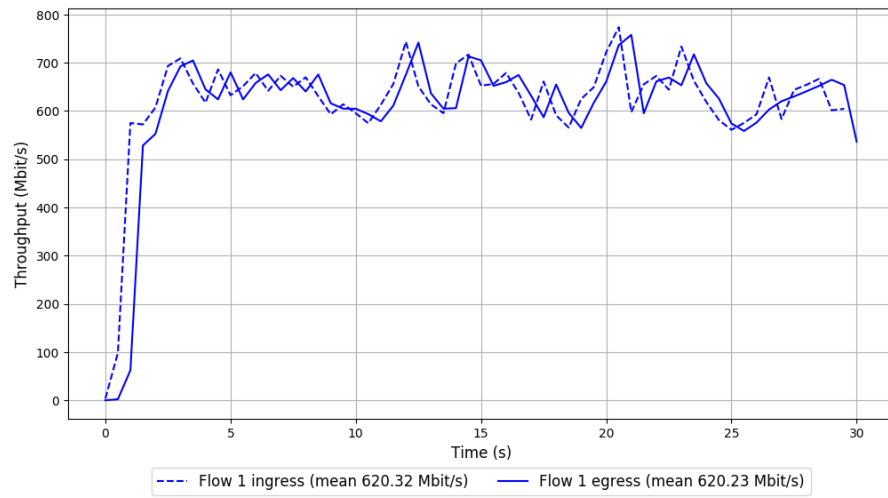


Run 3: Statistics of TCP Cubic

Start at: 2018-09-11 17:12:14
End at: 2018-09-11 17:12:44
Local clock offset: -0.198 ms
Remote clock offset: -0.233 ms

Below is generated by plot.py at 2018-09-11 18:56:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 620.23 Mbit/s
95th percentile per-packet one-way delay: 103.102 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 620.23 Mbit/s
95th percentile per-packet one-way delay: 103.102 ms
Loss rate: 0.36%

Run 3: Report of TCP Cubic — Data Link

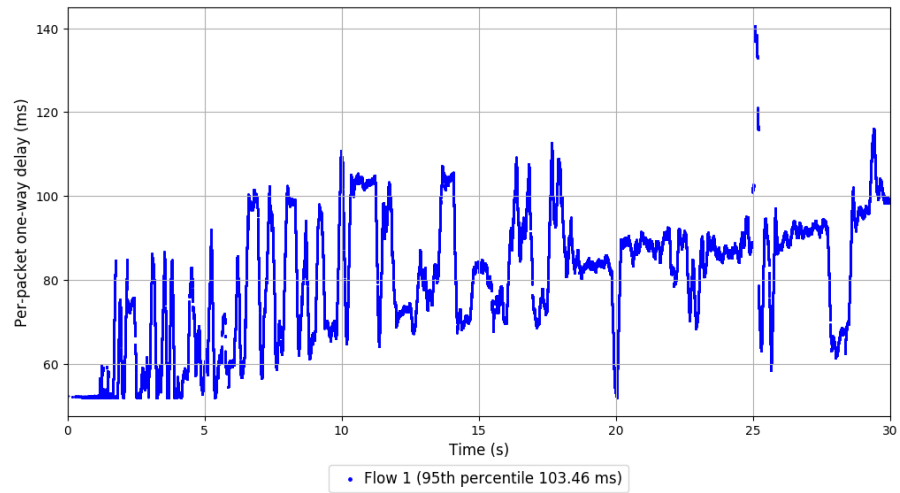
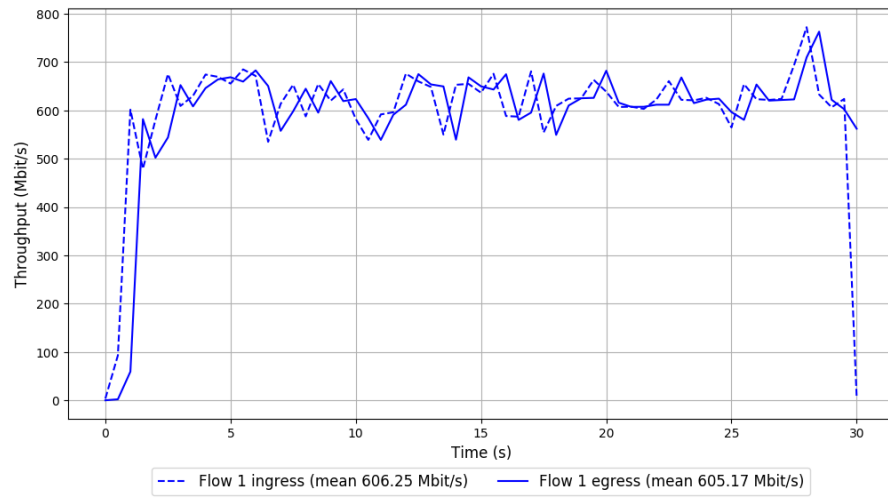


Run 4: Statistics of TCP Cubic

Start at: 2018-09-11 17:38:21
End at: 2018-09-11 17:38:51
Local clock offset: 0.09 ms
Remote clock offset: -1.538 ms

Below is generated by plot.py at 2018-09-11 18:56:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 605.17 Mbit/s
95th percentile per-packet one-way delay: 103.456 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 605.17 Mbit/s
95th percentile per-packet one-way delay: 103.456 ms
Loss rate: 0.52%

Run 4: Report of TCP Cubic — Data Link

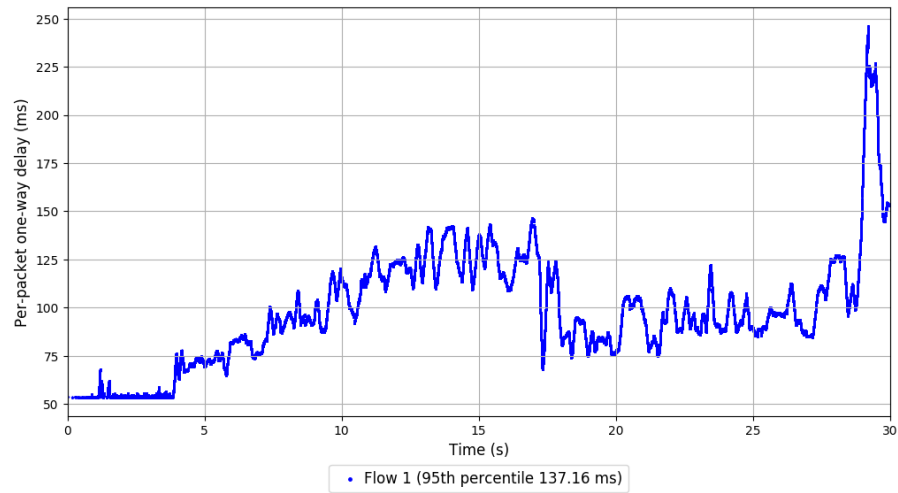
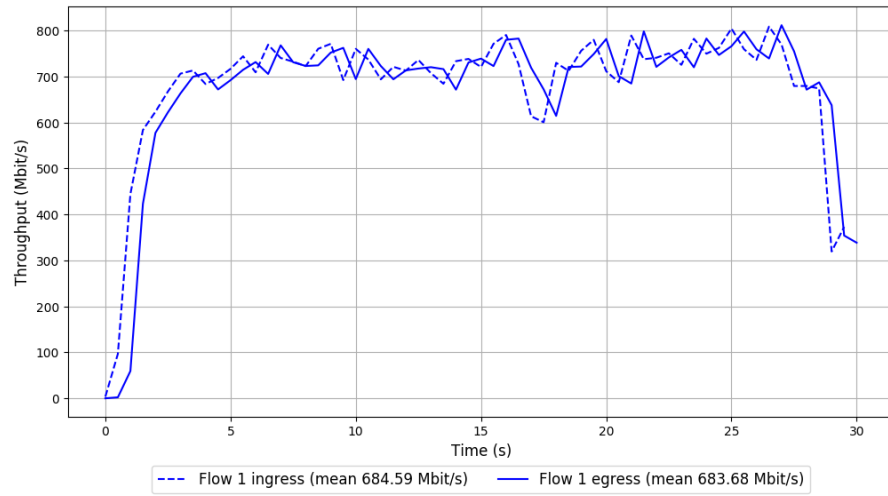


Run 5: Statistics of TCP Cubic

Start at: 2018-09-11 18:04:42
End at: 2018-09-11 18:05:12
Local clock offset: -0.027 ms
Remote clock offset: -0.413 ms

Below is generated by plot.py at 2018-09-11 18:58:04
Datalink statistics
-- Total of 1 flow:
Average throughput: 683.68 Mbit/s
95th percentile per-packet one-way delay: 137.162 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 683.68 Mbit/s
95th percentile per-packet one-way delay: 137.162 ms
Loss rate: 0.48%

Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2018-09-11 16:37:55

End at: 2018-09-11 16:38:26

Local clock offset: -0.181 ms

Remote clock offset: -0.61 ms

Below is generated by plot.py at 2018-09-11 19:03:05

Datalink statistics

-- Total of 1 flow:

Average throughput: 810.58 Mbit/s

95th percentile per-packet one-way delay: 114.498 ms

Loss rate: 2.26%

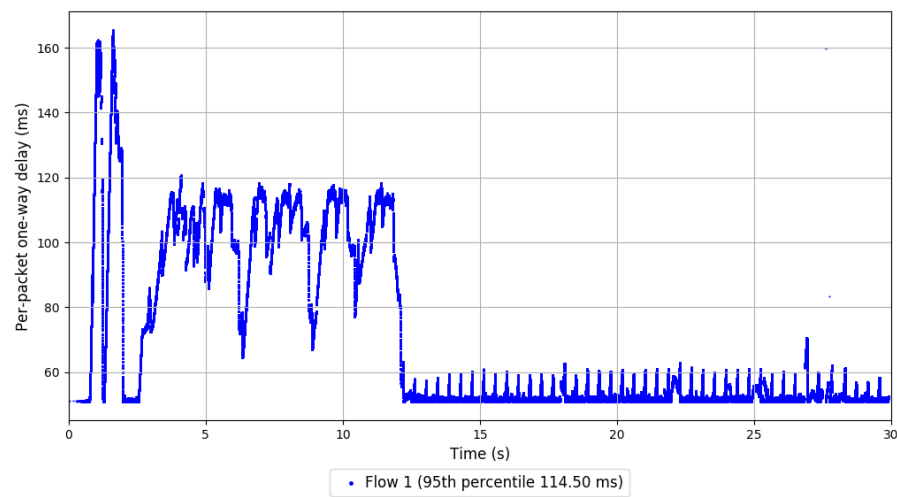
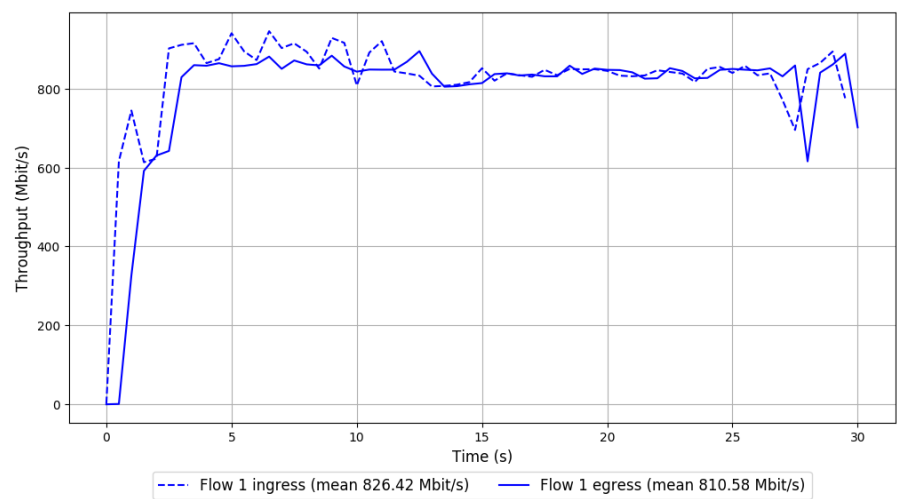
-- Flow 1:

Average throughput: 810.58 Mbit/s

95th percentile per-packet one-way delay: 114.498 ms

Loss rate: 2.26%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-09-11 17:04:01

End at: 2018-09-11 17:04:31

Local clock offset: -0.096 ms

Remote clock offset: 0.02 ms

Below is generated by plot.py at 2018-09-11 19:13:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 758.03 Mbit/s

95th percentile per-packet one-way delay: 137.687 ms

Loss rate: 7.22%

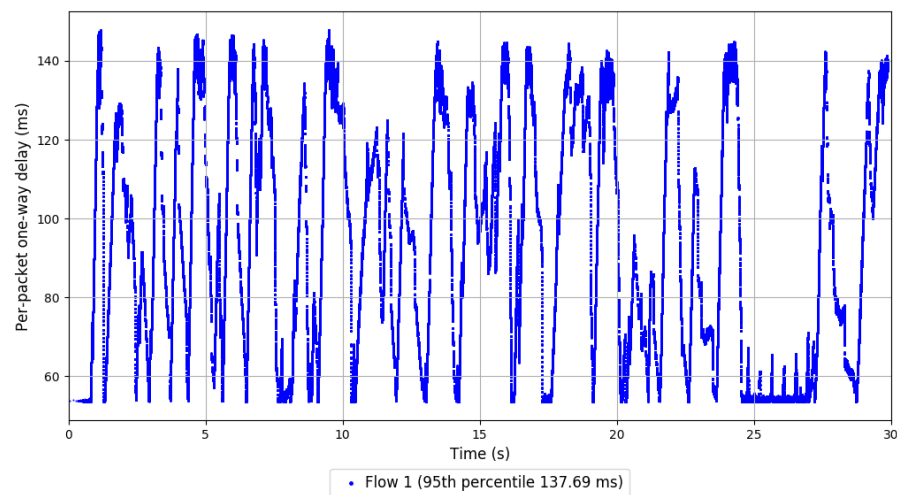
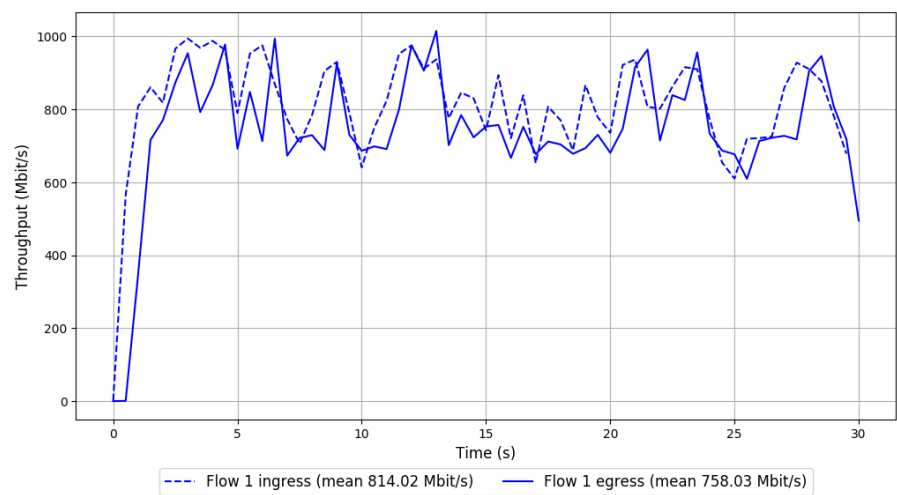
-- Flow 1:

Average throughput: 758.03 Mbit/s

95th percentile per-packet one-way delay: 137.687 ms

Loss rate: 7.22%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-09-11 17:30:06

End at: 2018-09-11 17:30:36

Local clock offset: -0.075 ms

Remote clock offset: 0.194 ms

Below is generated by plot.py at 2018-09-11 19:13:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 786.34 Mbit/s

95th percentile per-packet one-way delay: 145.670 ms

Loss rate: 6.25%

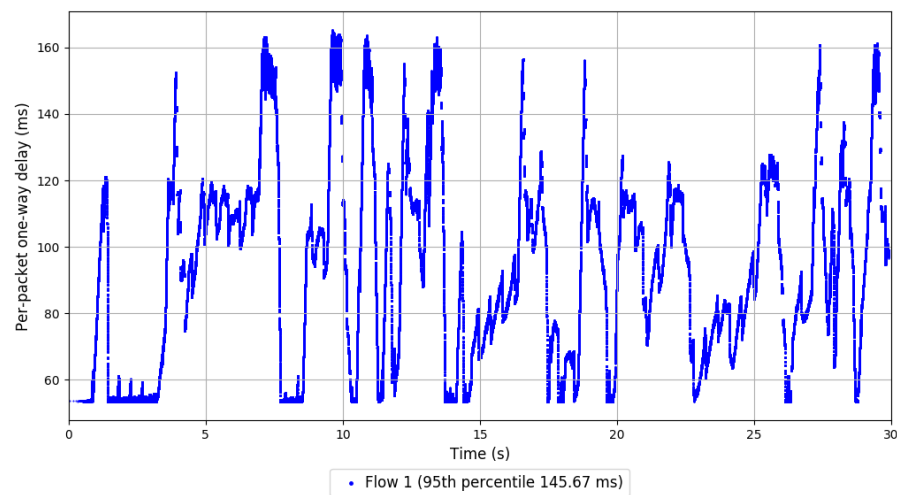
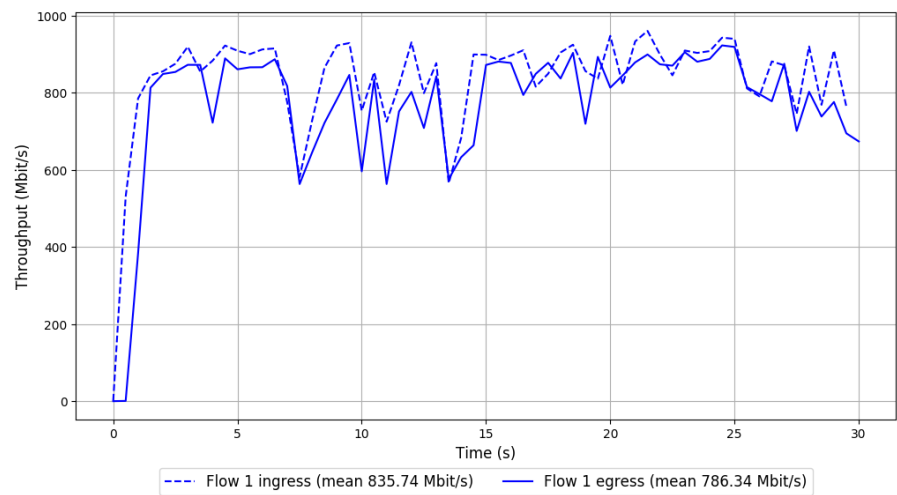
-- Flow 1:

Average throughput: 786.34 Mbit/s

95th percentile per-packet one-way delay: 145.670 ms

Loss rate: 6.25%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-09-11 17:56:19

End at: 2018-09-11 17:56:49

Local clock offset: -0.007 ms

Remote clock offset: -0.64 ms

Below is generated by plot.py at 2018-09-11 19:14:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 816.09 Mbit/s

95th percentile per-packet one-way delay: 125.085 ms

Loss rate: 5.47%

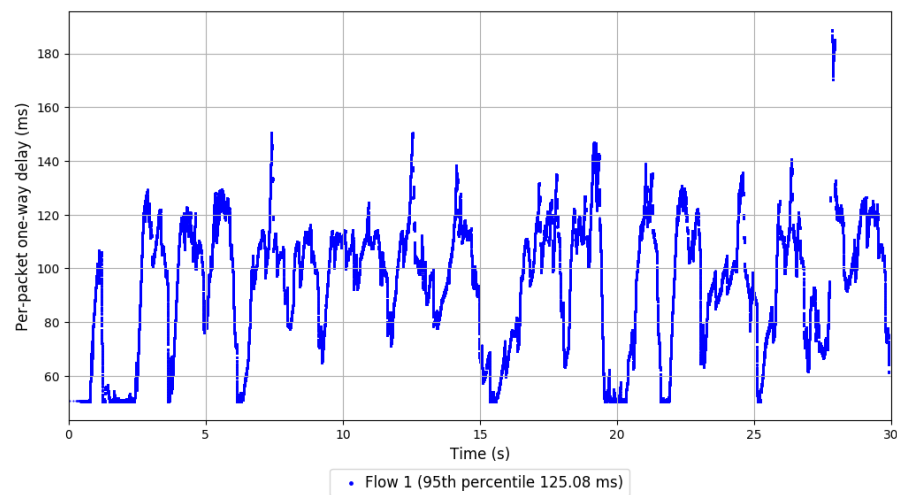
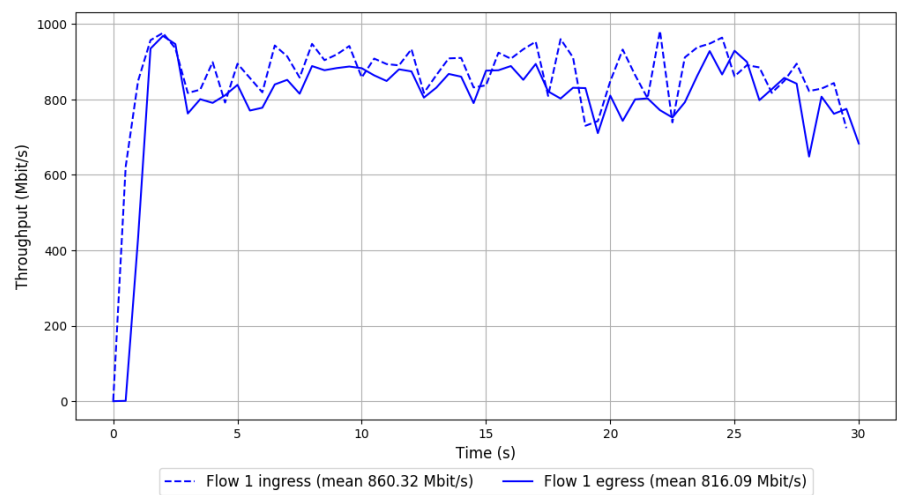
-- Flow 1:

Average throughput: 816.09 Mbit/s

95th percentile per-packet one-way delay: 125.085 ms

Loss rate: 5.47%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2018-09-11 18:22:35

End at: 2018-09-11 18:23:05

Local clock offset: 0.182 ms

Remote clock offset: 0.973 ms

Below is generated by plot.py at 2018-09-11 19:14:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 760.92 Mbit/s

95th percentile per-packet one-way delay: 127.549 ms

Loss rate: 6.68%

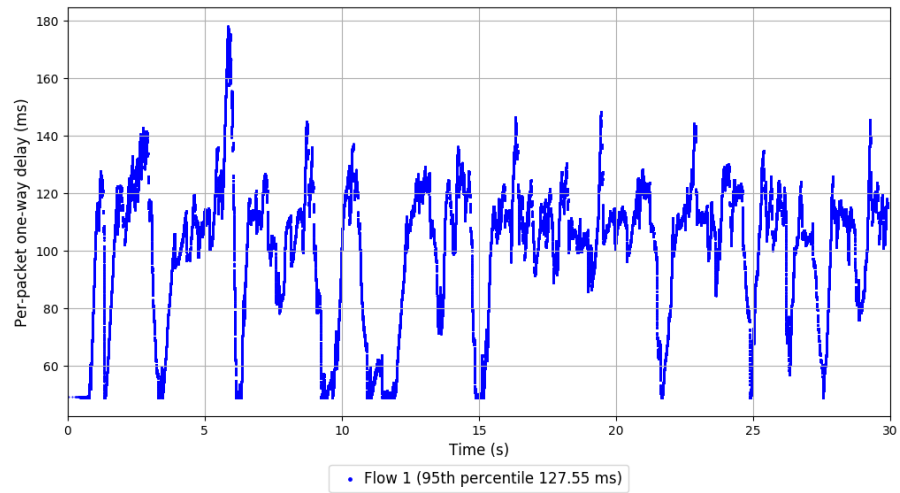
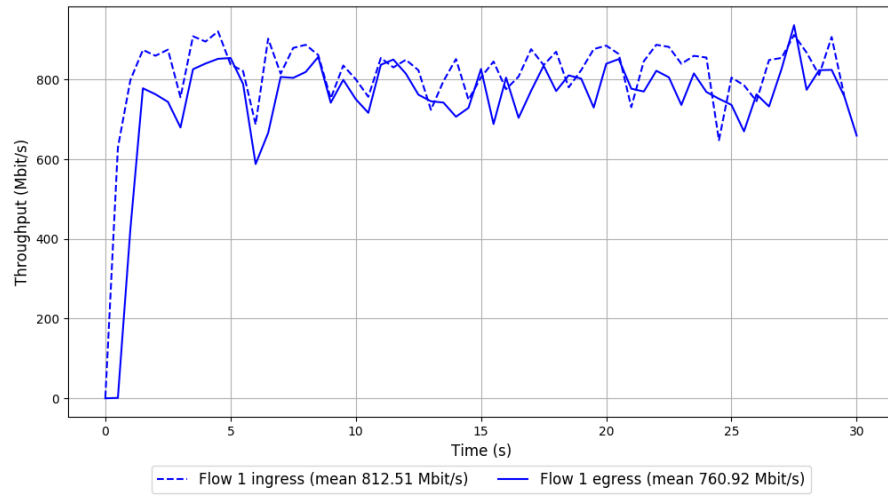
-- Flow 1:

Average throughput: 760.92 Mbit/s

95th percentile per-packet one-way delay: 127.549 ms

Loss rate: 6.68%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2018-09-11 16:23:25

End at: 2018-09-11 16:23:55

Local clock offset: 0.133 ms

Remote clock offset: 1.458 ms

Below is generated by plot.py at 2018-09-11 19:15:04

Datalink statistics

-- Total of 1 flow:

Average throughput: 830.47 Mbit/s

95th percentile per-packet one-way delay: 83.981 ms

Loss rate: 0.46%

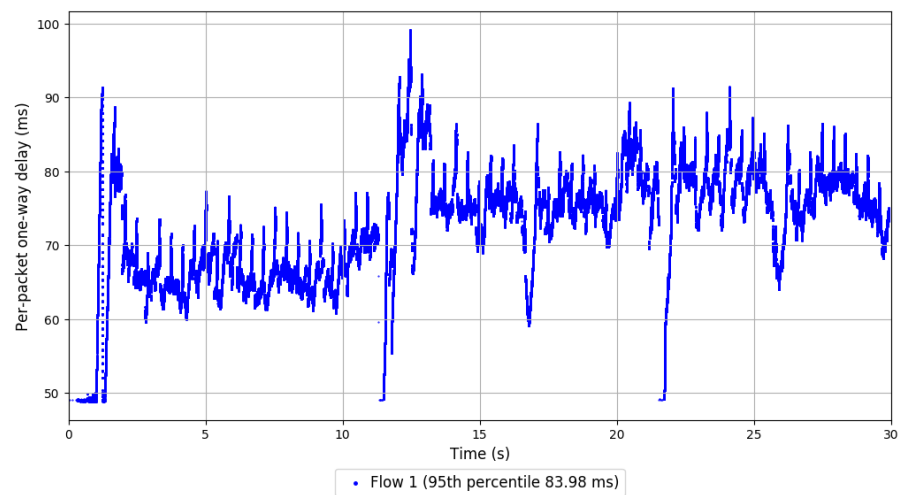
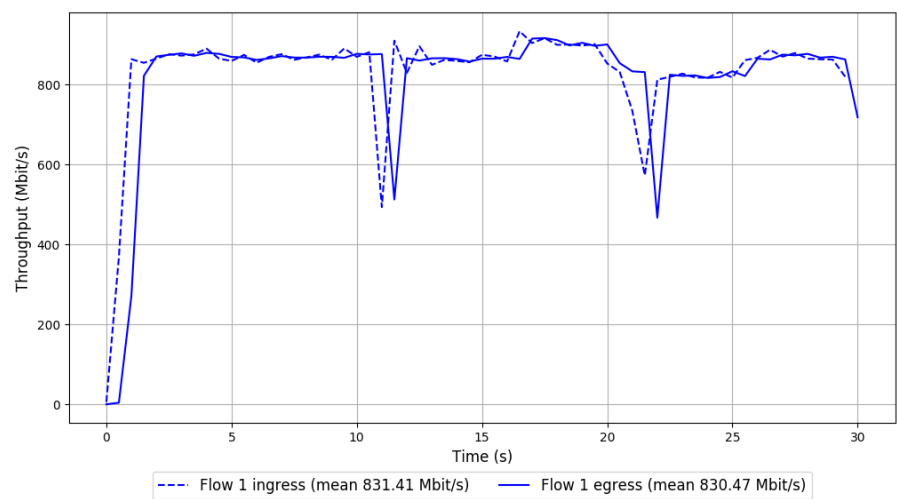
-- Flow 1:

Average throughput: 830.47 Mbit/s

95th percentile per-packet one-way delay: 83.981 ms

Loss rate: 0.46%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2018-09-11 16:49:21

End at: 2018-09-11 16:49:51

Local clock offset: -0.007 ms

Remote clock offset: 0.045 ms

Below is generated by plot.py at 2018-09-11 19:16:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 919.67 Mbit/s

95th percentile per-packet one-way delay: 115.458 ms

Loss rate: 1.09%

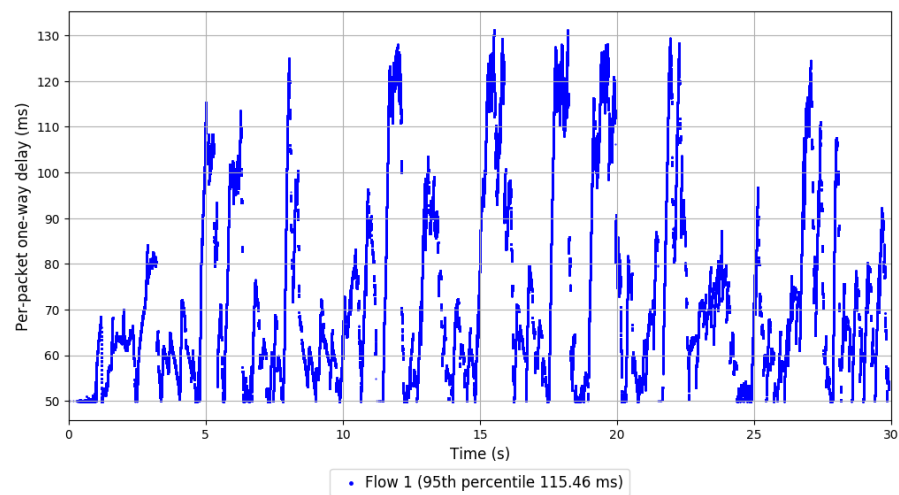
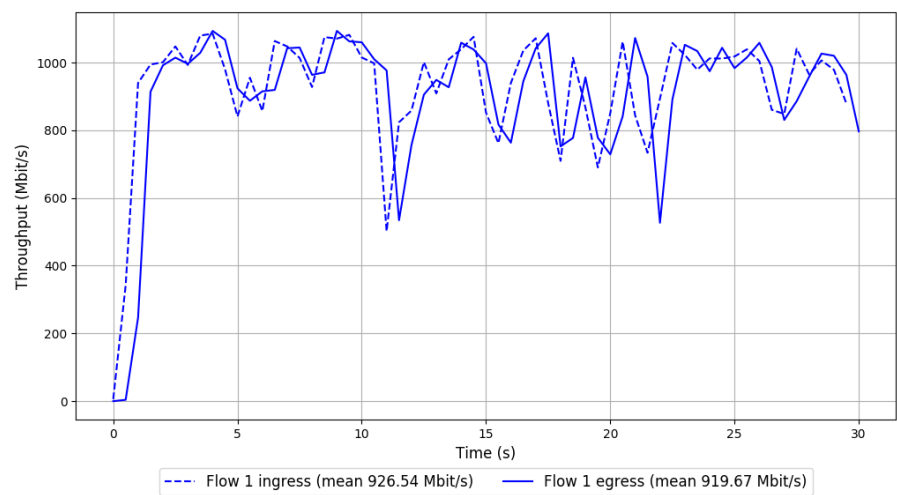
-- Flow 1:

Average throughput: 919.67 Mbit/s

95th percentile per-packet one-way delay: 115.458 ms

Loss rate: 1.09%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2018-09-11 17:15:26

End at: 2018-09-11 17:15:56

Local clock offset: 0.125 ms

Remote clock offset: 1.326 ms

Below is generated by plot.py at 2018-09-11 19:16:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 792.97 Mbit/s

95th percentile per-packet one-way delay: 118.249 ms

Loss rate: 1.39%

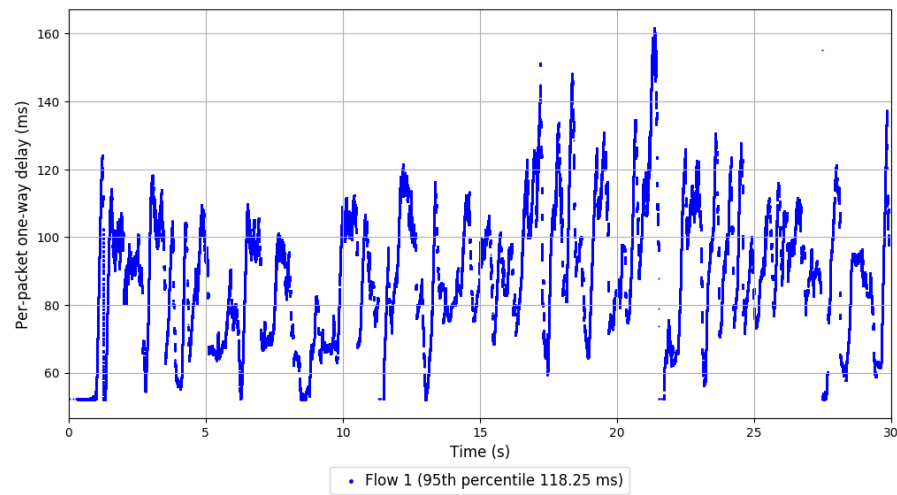
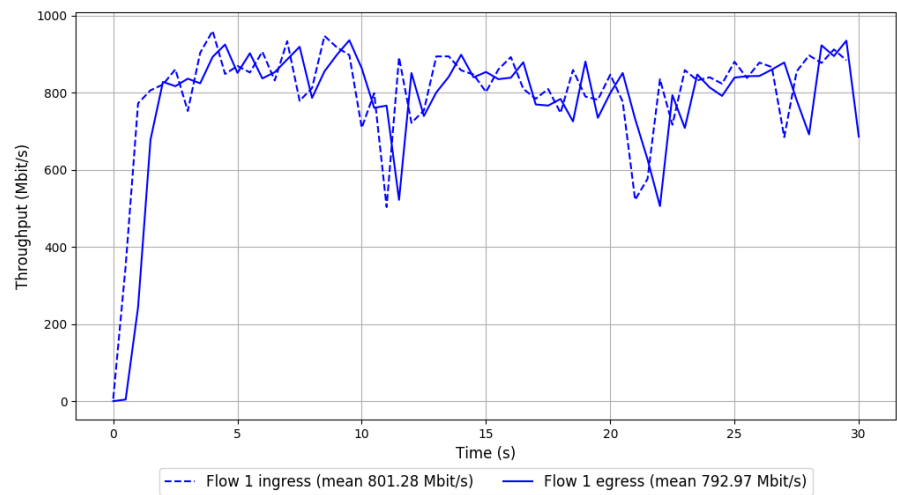
-- Flow 1:

Average throughput: 792.97 Mbit/s

95th percentile per-packet one-way delay: 118.249 ms

Loss rate: 1.39%

Run 3: Report of FillP-Sheep — Data Link

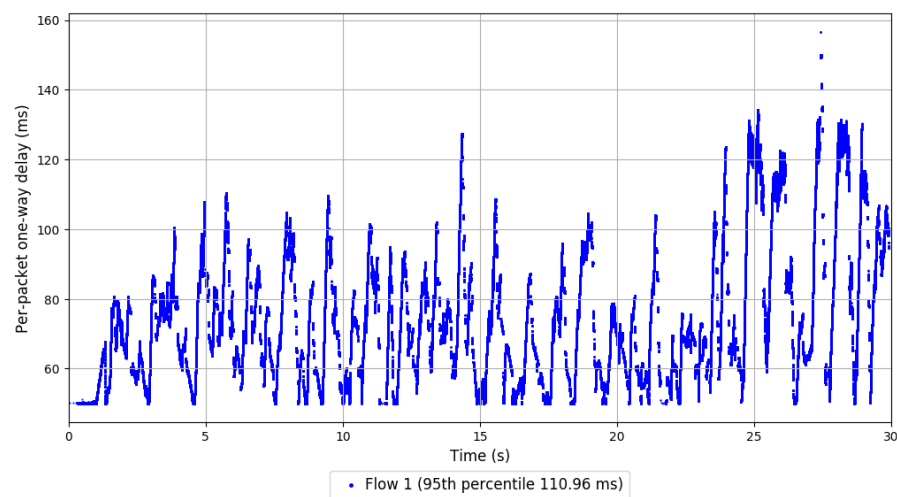
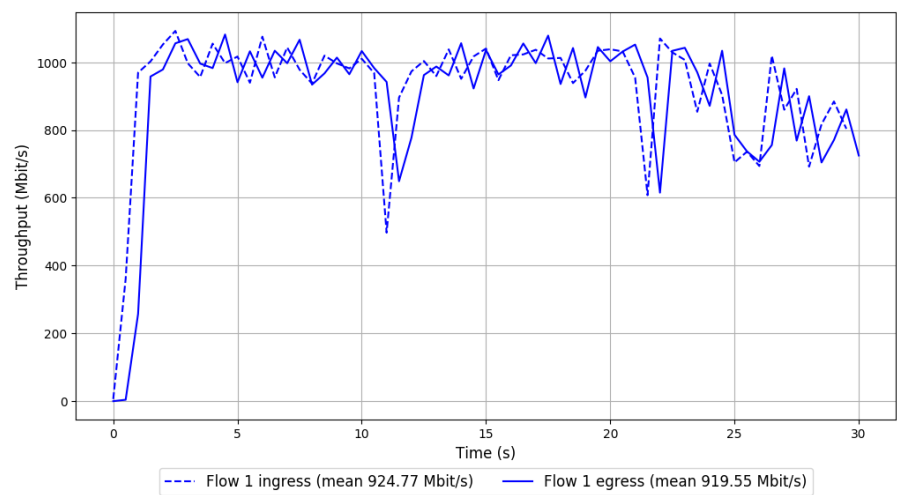


Run 4: Statistics of FillP-Sheep

Start at: 2018-09-11 17:41:37
End at: 2018-09-11 17:42:07
Local clock offset: -0.023 ms
Remote clock offset: -0.195 ms

Below is generated by plot.py at 2018-09-11 19:26:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 919.55 Mbit/s
95th percentile per-packet one-way delay: 110.963 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 919.55 Mbit/s
95th percentile per-packet one-way delay: 110.963 ms
Loss rate: 0.91%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2018-09-11 18:08:00

End at: 2018-09-11 18:08:30

Local clock offset: 0.094 ms

Remote clock offset: 0.833 ms

Below is generated by plot.py at 2018-09-11 19:31:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 790.13 Mbit/s

95th percentile per-packet one-way delay: 111.128 ms

Loss rate: 1.52%

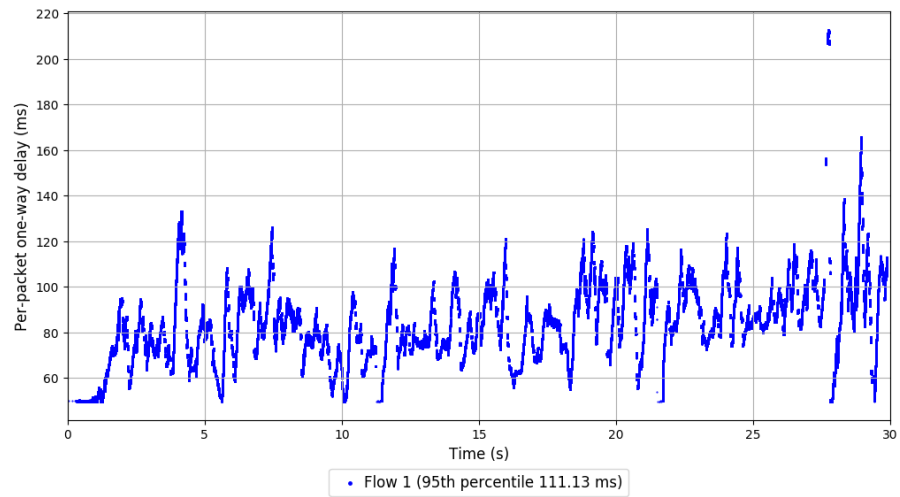
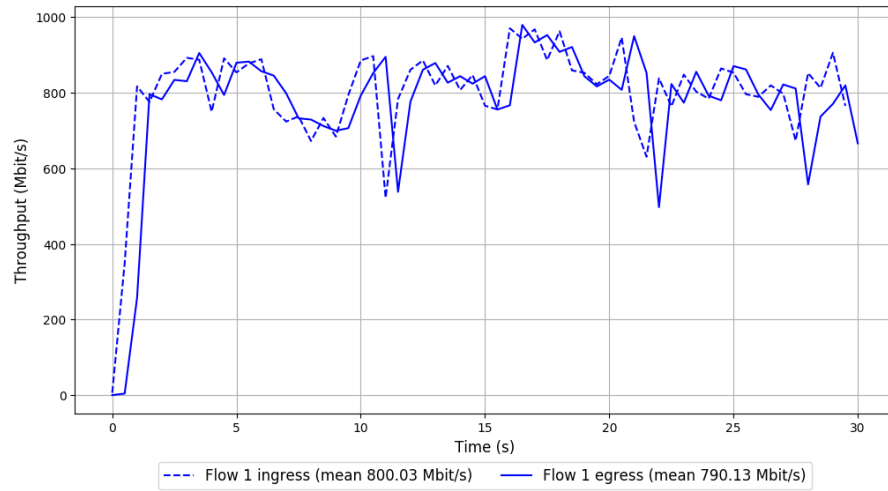
-- Flow 1:

Average throughput: 790.13 Mbit/s

95th percentile per-packet one-way delay: 111.128 ms

Loss rate: 1.52%

Run 5: Report of FillP-Sheep — Data Link



Run 1: Statistics of Indigo

Start at: 2018-09-11 16:32:16

End at: 2018-09-11 16:32:46

Local clock offset: 0.092 ms

Remote clock offset: -0.088 ms

Below is generated by plot.py at 2018-09-11 19:31:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 226.68 Mbit/s

95th percentile per-packet one-way delay: 54.133 ms

Loss rate: 0.37%

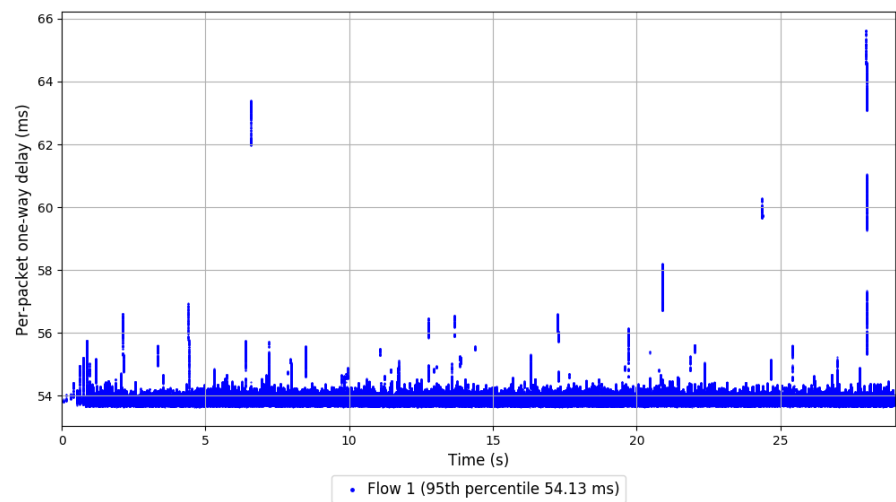
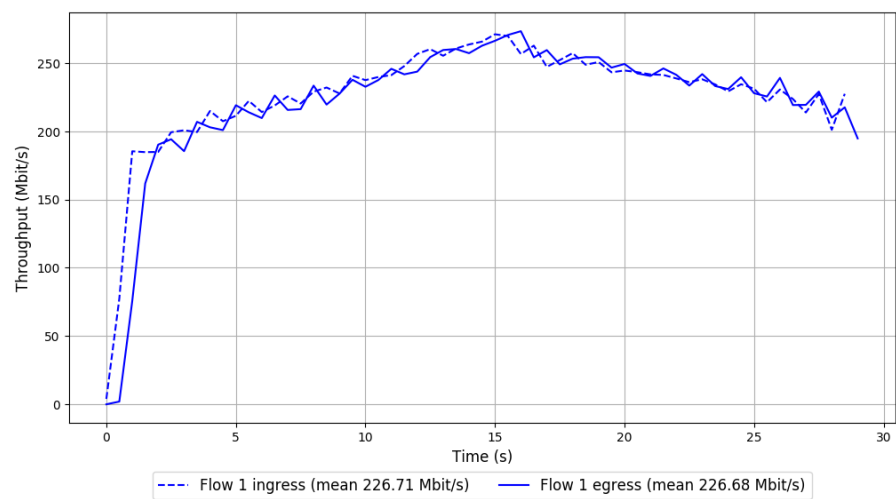
-- Flow 1:

Average throughput: 226.68 Mbit/s

95th percentile per-packet one-way delay: 54.133 ms

Loss rate: 0.37%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-09-11 16:58:19

End at: 2018-09-11 16:58:50

Local clock offset: 0.103 ms

Remote clock offset: 0.05 ms

Below is generated by plot.py at 2018-09-11 19:31:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 225.45 Mbit/s

95th percentile per-packet one-way delay: 50.573 ms

Loss rate: 0.33%

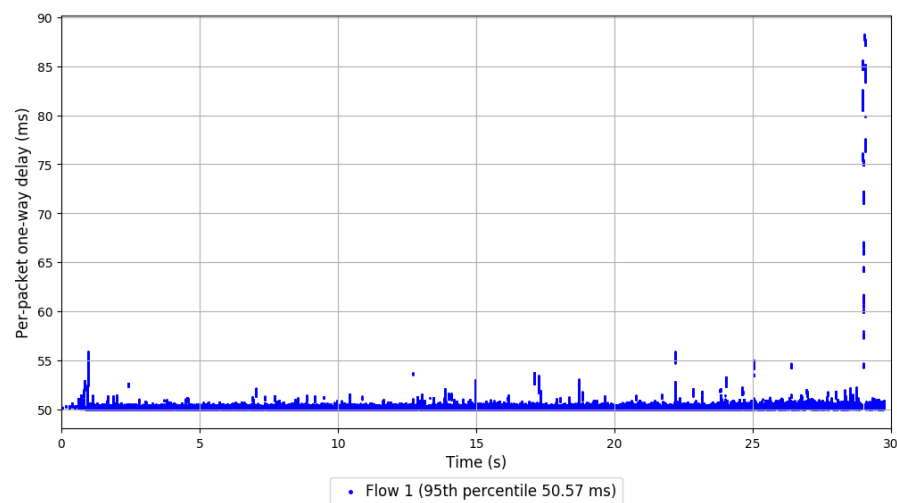
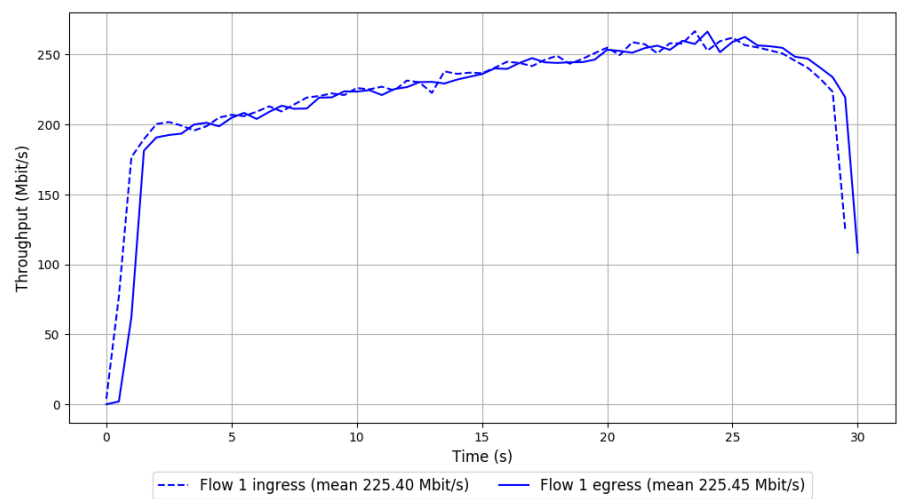
-- Flow 1:

Average throughput: 225.45 Mbit/s

95th percentile per-packet one-way delay: 50.573 ms

Loss rate: 0.33%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-09-11 17:24:27

End at: 2018-09-11 17:24:57

Local clock offset: -0.023 ms

Remote clock offset: 1.455 ms

Below is generated by plot.py at 2018-09-11 19:31:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 229.22 Mbit/s

95th percentile per-packet one-way delay: 52.780 ms

Loss rate: 0.34%

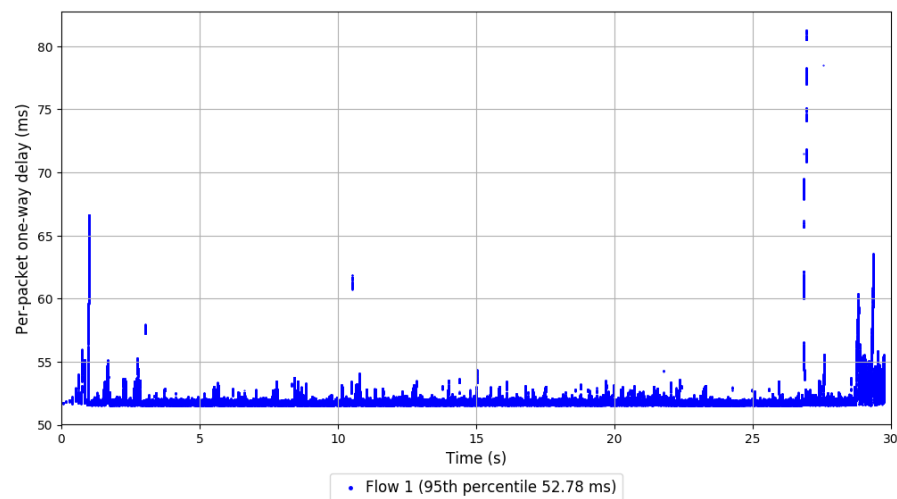
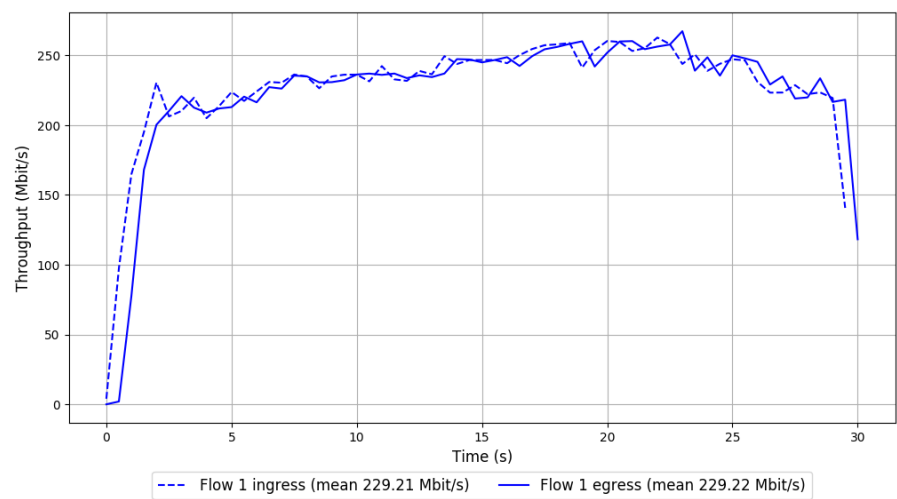
-- Flow 1:

Average throughput: 229.22 Mbit/s

95th percentile per-packet one-way delay: 52.780 ms

Loss rate: 0.34%

Run 3: Report of Indigo — Data Link

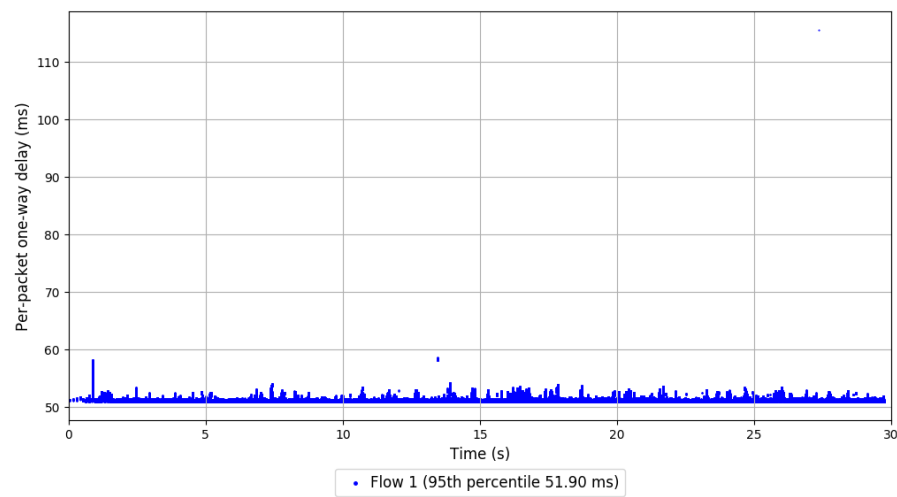
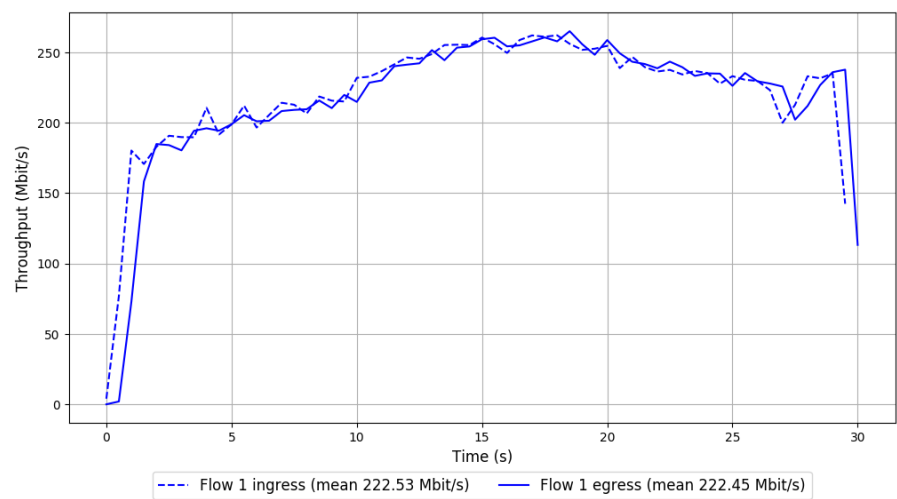


Run 4: Statistics of Indigo

Start at: 2018-09-11 17:50:40
End at: 2018-09-11 17:51:10
Local clock offset: -0.154 ms
Remote clock offset: -0.803 ms

Below is generated by plot.py at 2018-09-11 19:31:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 222.45 Mbit/s
95th percentile per-packet one-way delay: 51.902 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 222.45 Mbit/s
95th percentile per-packet one-way delay: 51.902 ms
Loss rate: 0.38%

Run 4: Report of Indigo — Data Link

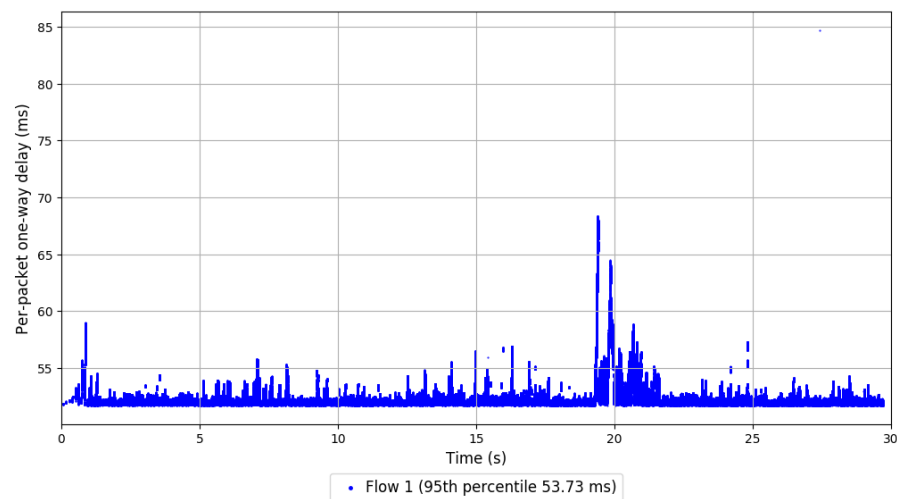
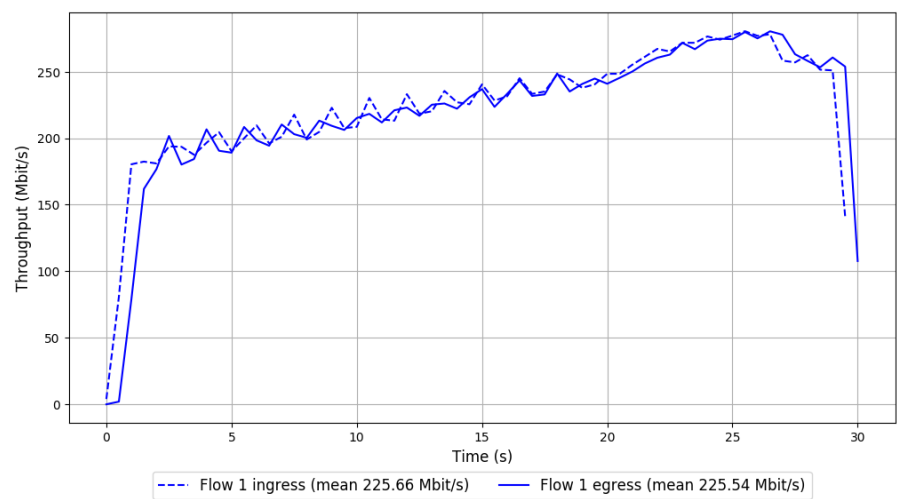


Run 5: Statistics of Indigo

Start at: 2018-09-11 18:16:56
End at: 2018-09-11 18:17:26
Local clock offset: 0.154 ms
Remote clock offset: -1.655 ms

Below is generated by plot.py at 2018-09-11 19:31:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 225.54 Mbit/s
95th percentile per-packet one-way delay: 53.733 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 225.54 Mbit/s
95th percentile per-packet one-way delay: 53.733 ms
Loss rate: 0.40%

Run 5: Report of Indigo — Data Link

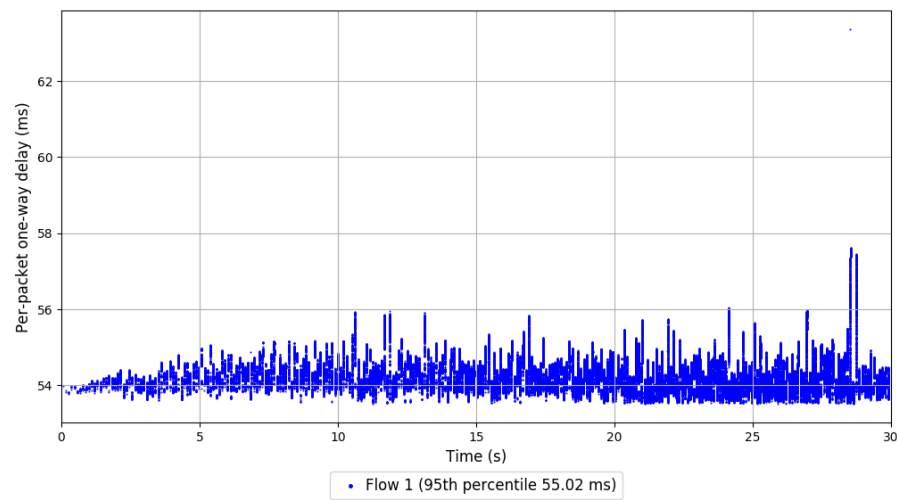
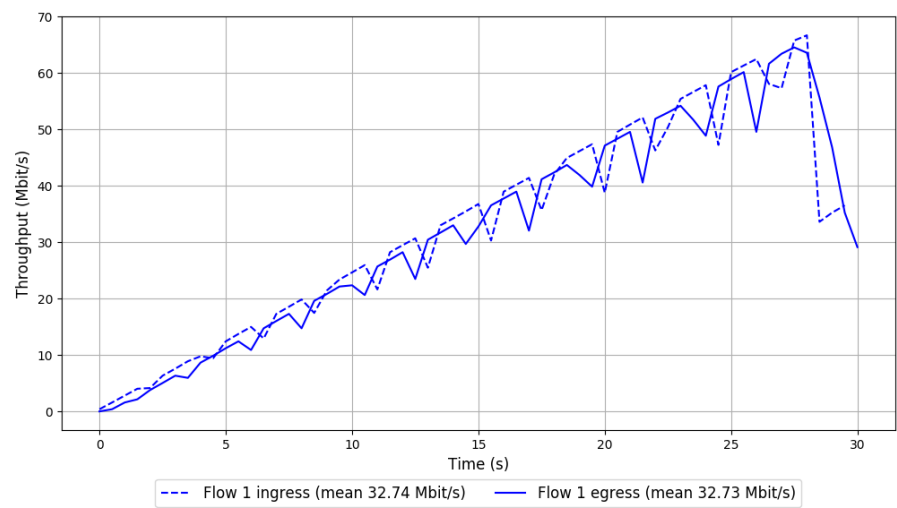


Run 1: Statistics of LEDBAT

Start at: 2018-09-11 16:19:03
End at: 2018-09-11 16:19:33
Local clock offset: -0.0 ms
Remote clock offset: -0.378 ms

Below is generated by plot.py at 2018-09-11 19:31:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 32.73 Mbit/s
95th percentile per-packet one-way delay: 55.015 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 32.73 Mbit/s
95th percentile per-packet one-way delay: 55.015 ms
Loss rate: 0.38%

Run 1: Report of LEDBAT — Data Link

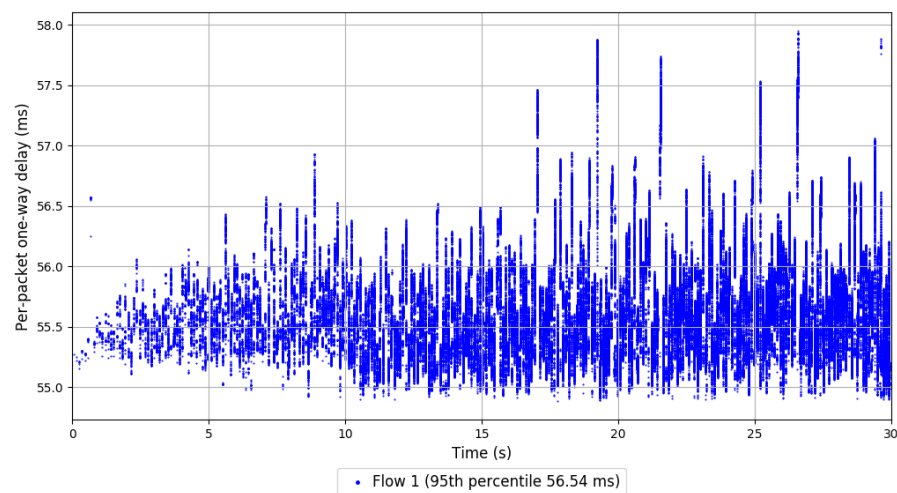
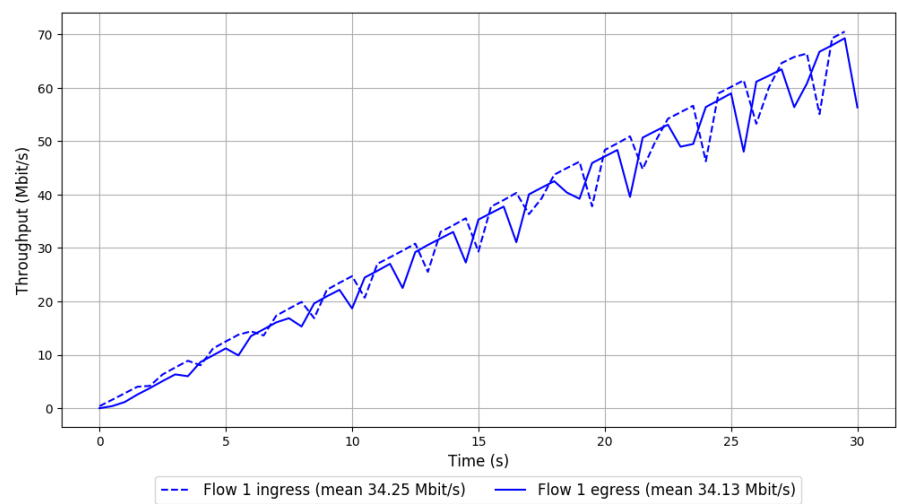


Run 2: Statistics of LEDBAT

Start at: 2018-09-11 16:45:01
End at: 2018-09-11 16:45:31
Local clock offset: -0.038 ms
Remote clock offset: -1.457 ms

Below is generated by plot.py at 2018-09-11 19:31:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 34.13 Mbit/s
95th percentile per-packet one-way delay: 56.536 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 34.13 Mbit/s
95th percentile per-packet one-way delay: 56.536 ms
Loss rate: 0.69%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-09-11 17:11:04

End at: 2018-09-11 17:11:34

Local clock offset: -0.043 ms

Remote clock offset: 0.732 ms

Below is generated by plot.py at 2018-09-11 19:31:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 33.99 Mbit/s

95th percentile per-packet one-way delay: 54.313 ms

Loss rate: 0.69%

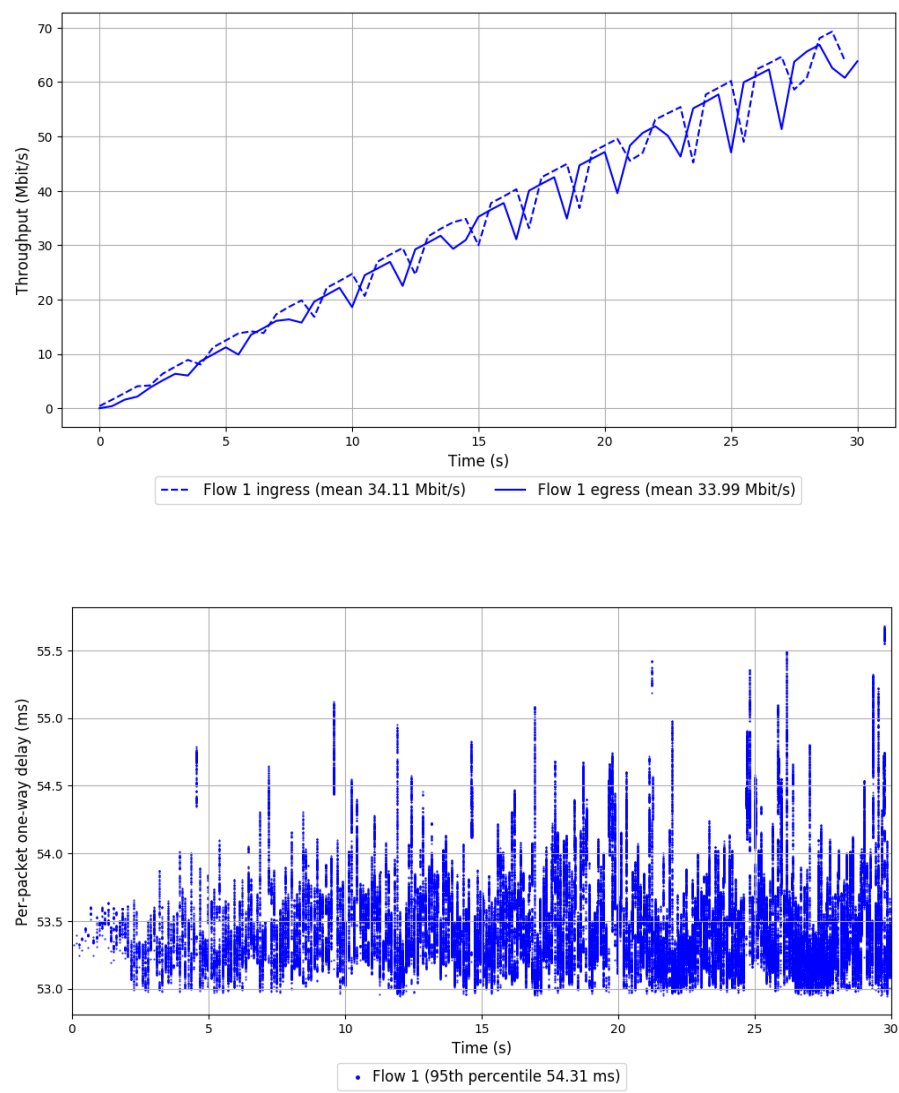
-- Flow 1:

Average throughput: 33.99 Mbit/s

95th percentile per-packet one-way delay: 54.313 ms

Loss rate: 0.69%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2018-09-11 17:37:11

End at: 2018-09-11 17:37:41

Local clock offset: -0.066 ms

Remote clock offset: 0.558 ms

Below is generated by plot.py at 2018-09-11 19:31:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 34.13 Mbit/s

95th percentile per-packet one-way delay: 54.038 ms

Loss rate: 0.69%

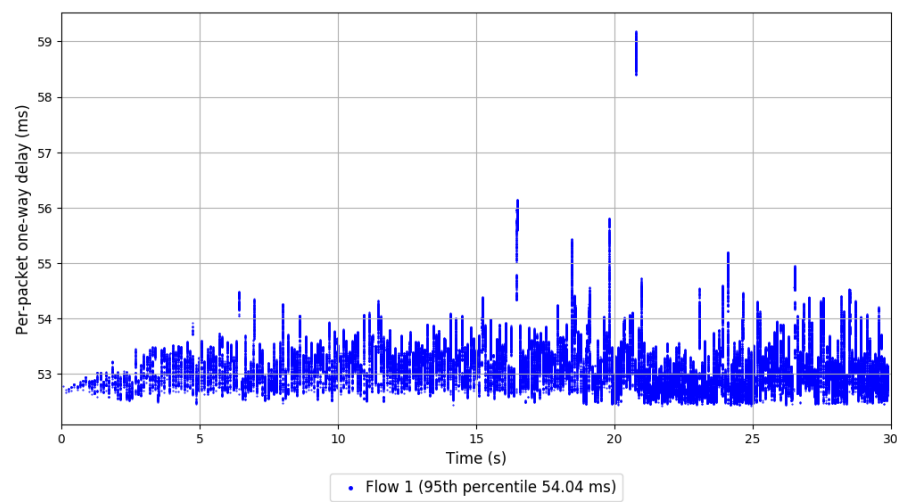
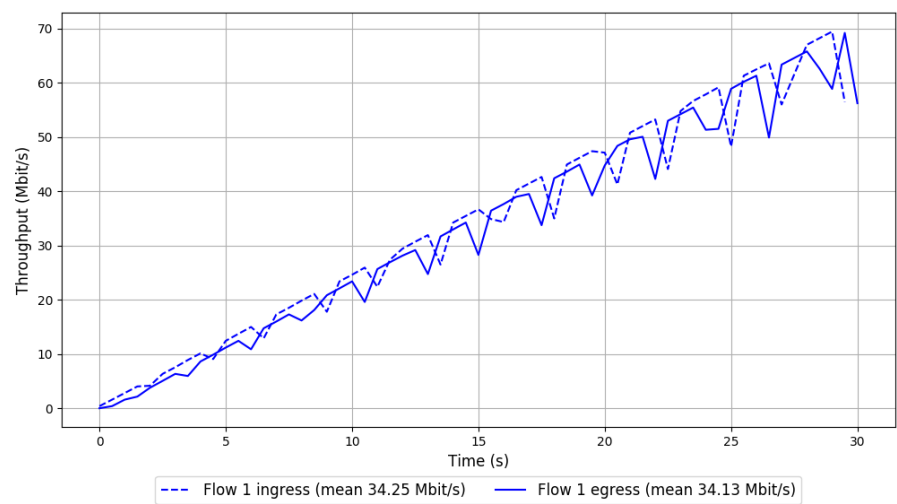
-- Flow 1:

Average throughput: 34.13 Mbit/s

95th percentile per-packet one-way delay: 54.038 ms

Loss rate: 0.69%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2018-09-11 18:03:32

End at: 2018-09-11 18:04:02

Local clock offset: 0.028 ms

Remote clock offset: -1.45 ms

Below is generated by plot.py at 2018-09-11 19:31:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 35.00 Mbit/s

95th percentile per-packet one-way delay: 53.220 ms

Loss rate: 0.00%

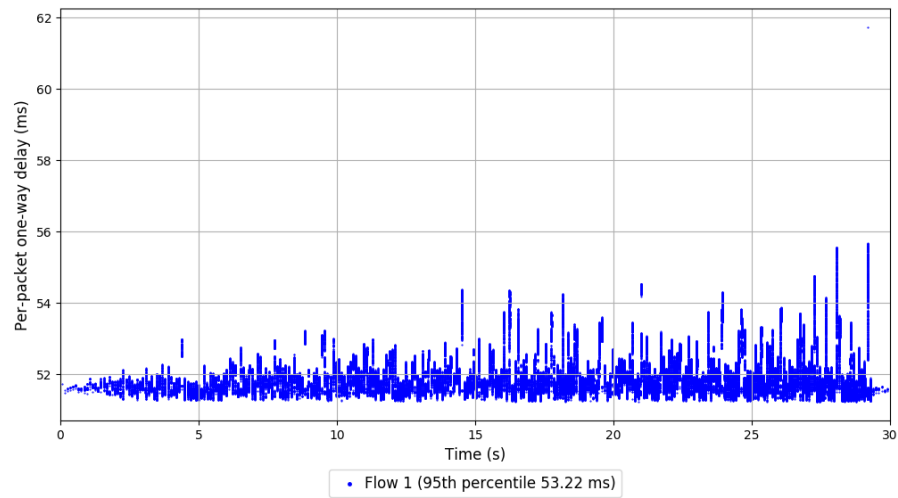
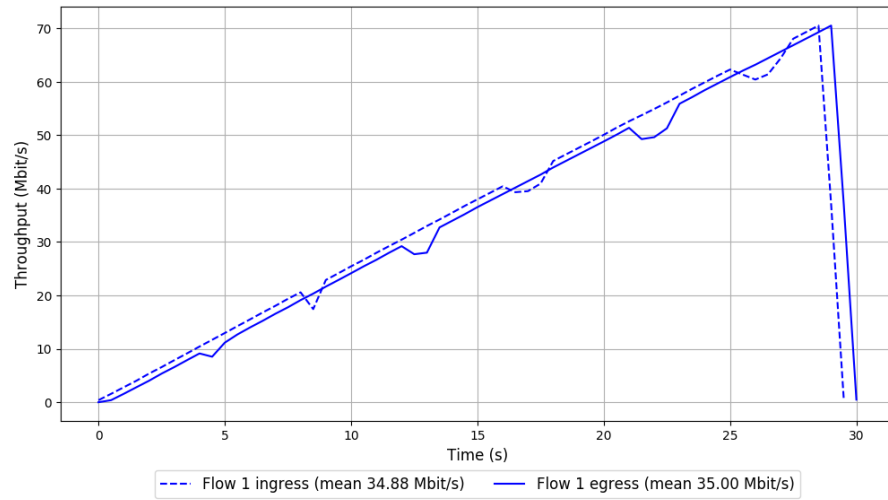
-- Flow 1:

Average throughput: 35.00 Mbit/s

95th percentile per-packet one-way delay: 53.220 ms

Loss rate: 0.00%

Run 5: Report of LEDBAT — Data Link

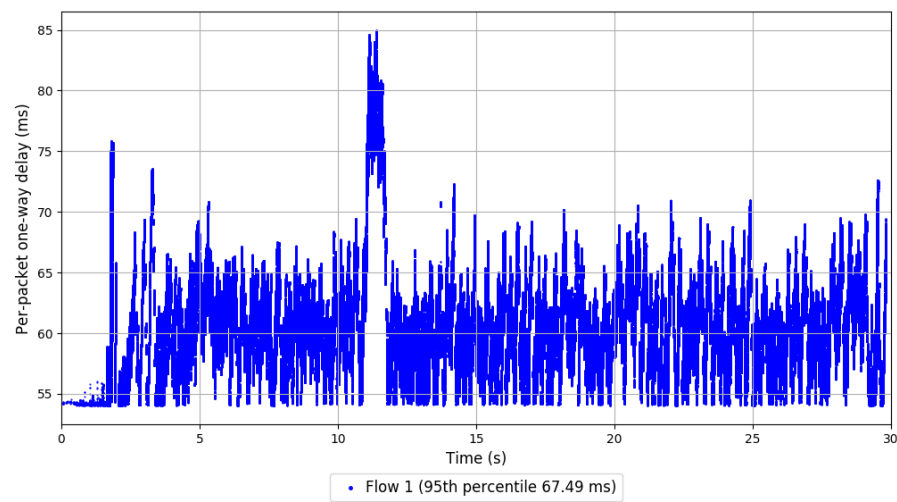
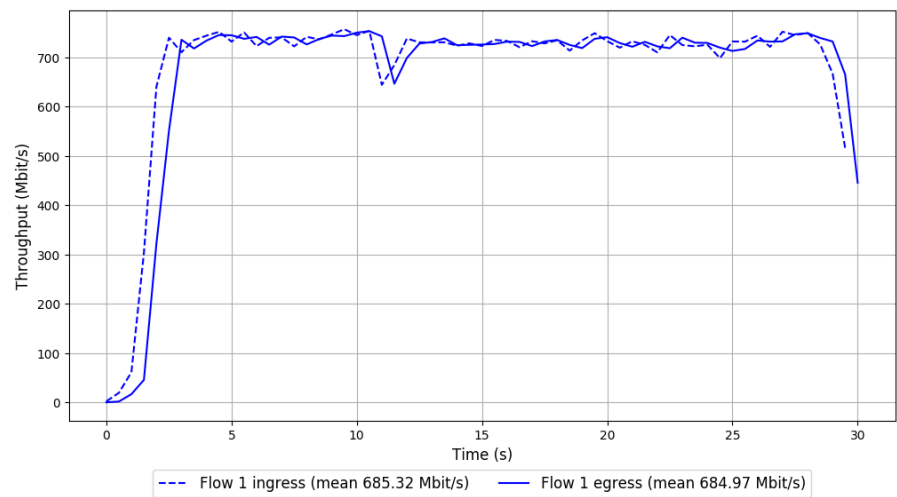


Run 1: Statistics of Indigo-Muses

Start at: 2018-09-11 16:30:36
End at: 2018-09-11 16:31:06
Local clock offset: 0.116 ms
Remote clock offset: -0.288 ms

Below is generated by plot.py at 2018-09-11 19:34:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 684.97 Mbit/s
95th percentile per-packet one-way delay: 67.491 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 684.97 Mbit/s
95th percentile per-packet one-way delay: 67.491 ms
Loss rate: 0.40%

Run 1: Report of Indigo-Muses — Data Link

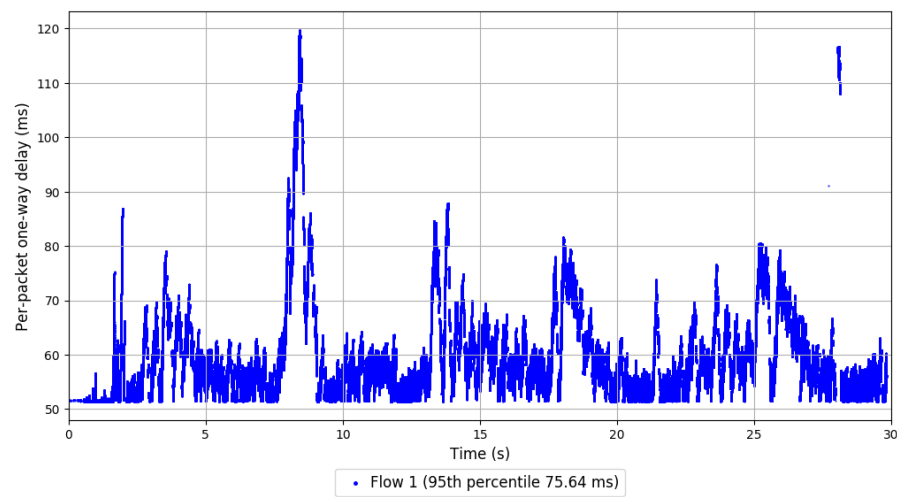
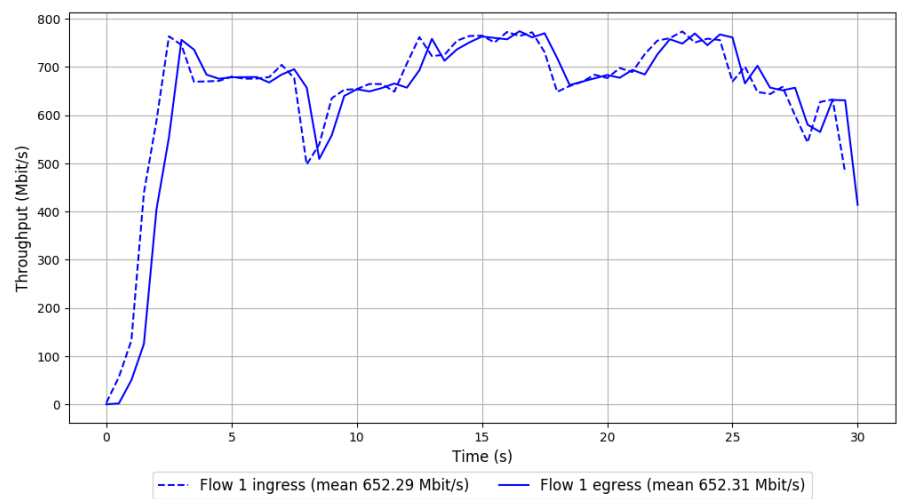


Run 2: Statistics of Indigo-Muses

Start at: 2018-09-11 16:56:42
End at: 2018-09-11 16:57:12
Local clock offset: -0.197 ms
Remote clock offset: -1.429 ms

Below is generated by plot.py at 2018-09-11 19:34:48
Datalink statistics
-- Total of 1 flow:
Average throughput: 652.31 Mbit/s
95th percentile per-packet one-way delay: 75.637 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 652.31 Mbit/s
95th percentile per-packet one-way delay: 75.637 ms
Loss rate: 0.35%

Run 2: Report of Indigo-Muses — Data Link

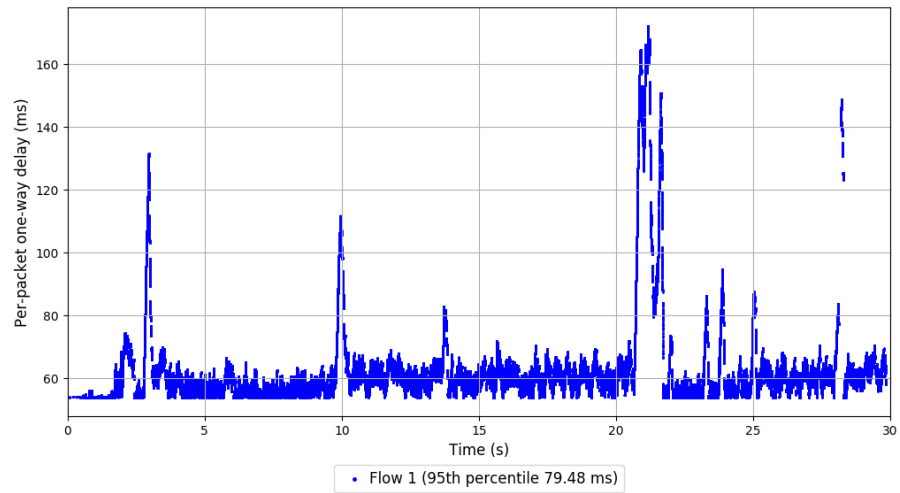
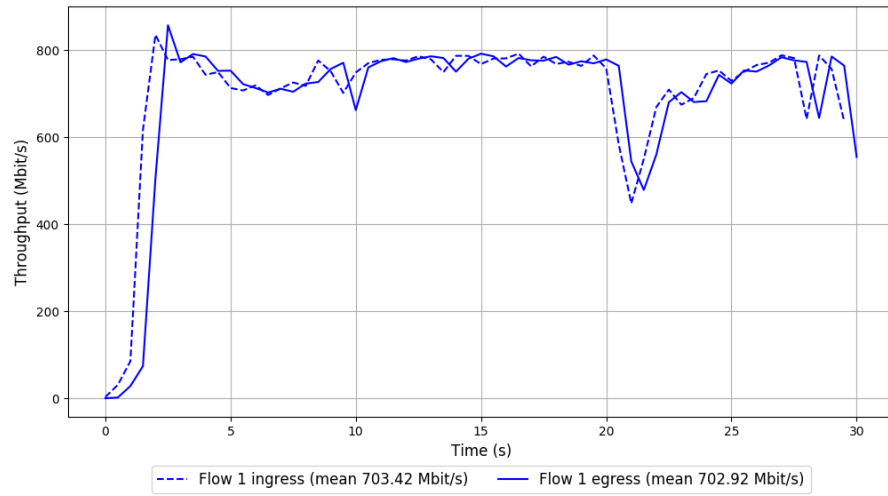


Run 3: Statistics of Indigo-Muses

Start at: 2018-09-11 17:22:46
End at: 2018-09-11 17:23:16
Local clock offset: -0.199 ms
Remote clock offset: -0.701 ms

Below is generated by plot.py at 2018-09-11 19:35:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 702.92 Mbit/s
95th percentile per-packet one-way delay: 79.478 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 702.92 Mbit/s
95th percentile per-packet one-way delay: 79.478 ms
Loss rate: 0.42%

Run 3: Report of Indigo-Muses — Data Link

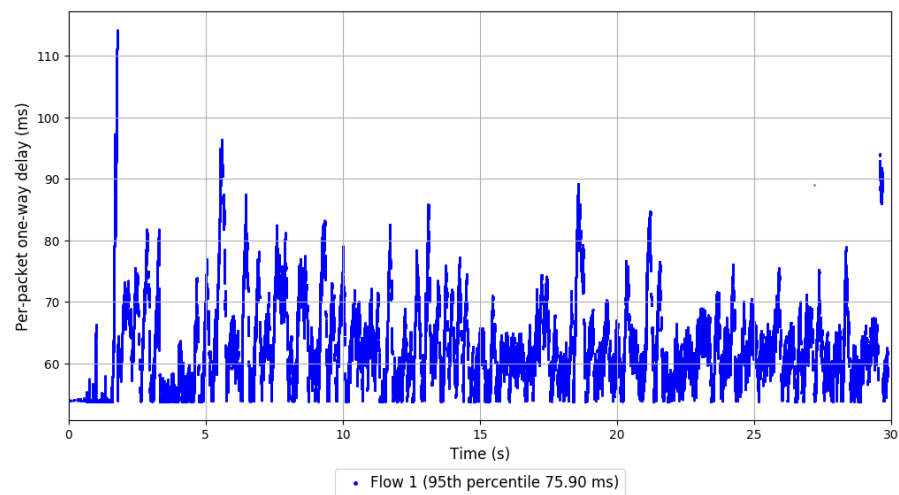
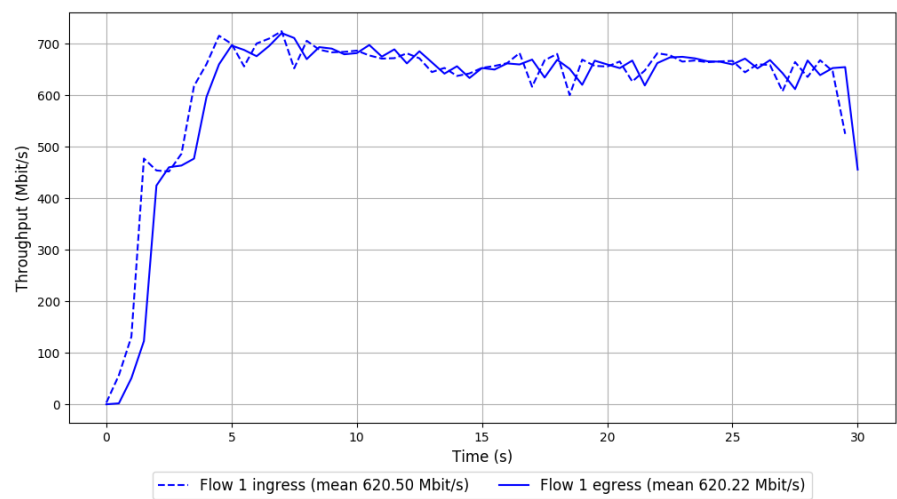


Run 4: Statistics of Indigo-Muses

Start at: 2018-09-11 17:49:02
End at: 2018-09-11 17:49:32
Local clock offset: 0.007 ms
Remote clock offset: -0.367 ms

Below is generated by plot.py at 2018-09-11 19:35:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 620.22 Mbit/s
95th percentile per-packet one-way delay: 75.899 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 620.22 Mbit/s
95th percentile per-packet one-way delay: 75.899 ms
Loss rate: 0.40%

Run 4: Report of Indigo-Muses — Data Link

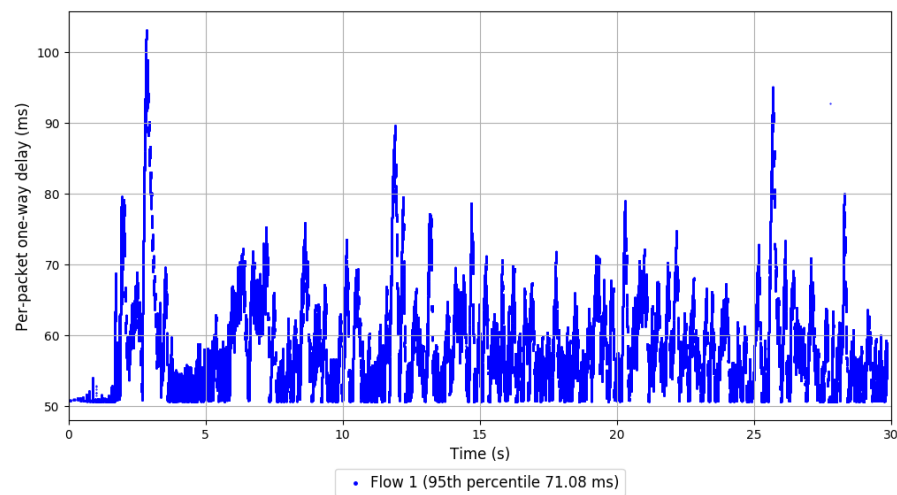
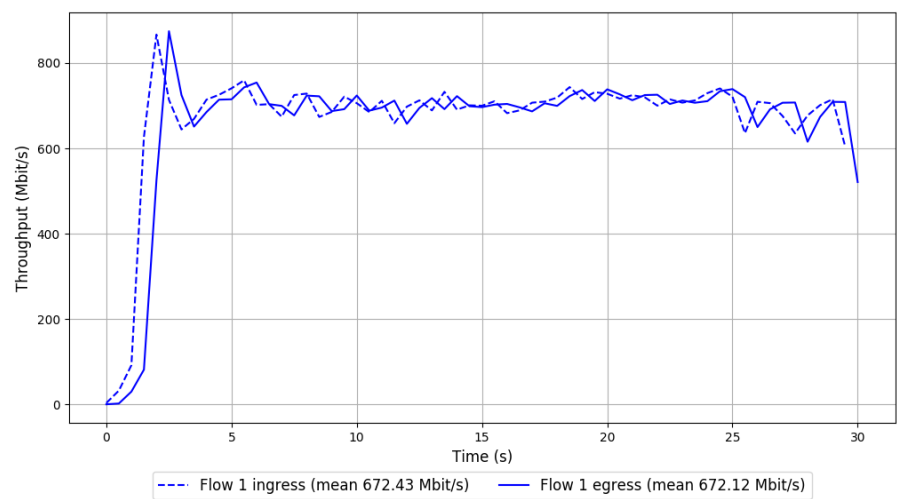


Run 5: Statistics of Indigo-Muses

Start at: 2018-09-11 18:15:17
End at: 2018-09-11 18:15:47
Local clock offset: -0.186 ms
Remote clock offset: -0.424 ms

Below is generated by plot.py at 2018-09-11 19:35:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 672.12 Mbit/s
95th percentile per-packet one-way delay: 71.081 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 672.12 Mbit/s
95th percentile per-packet one-way delay: 71.081 ms
Loss rate: 0.40%

Run 5: Report of Indigo-Muses — Data Link

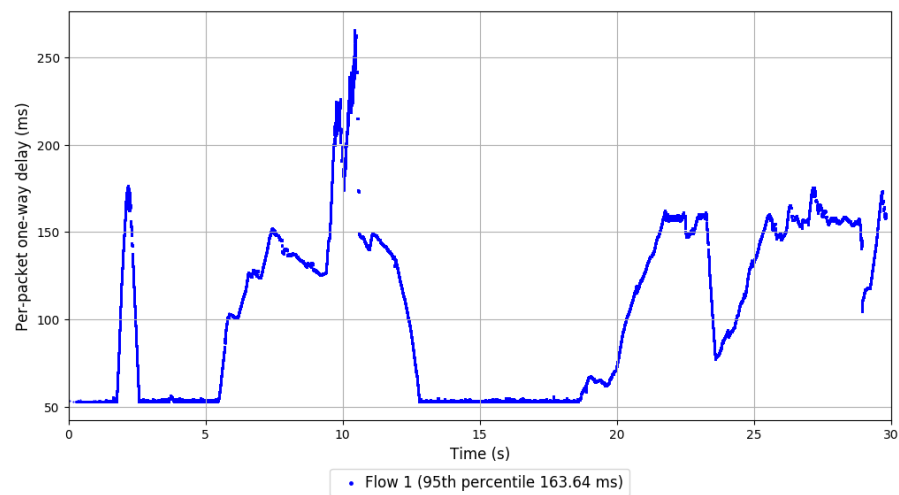
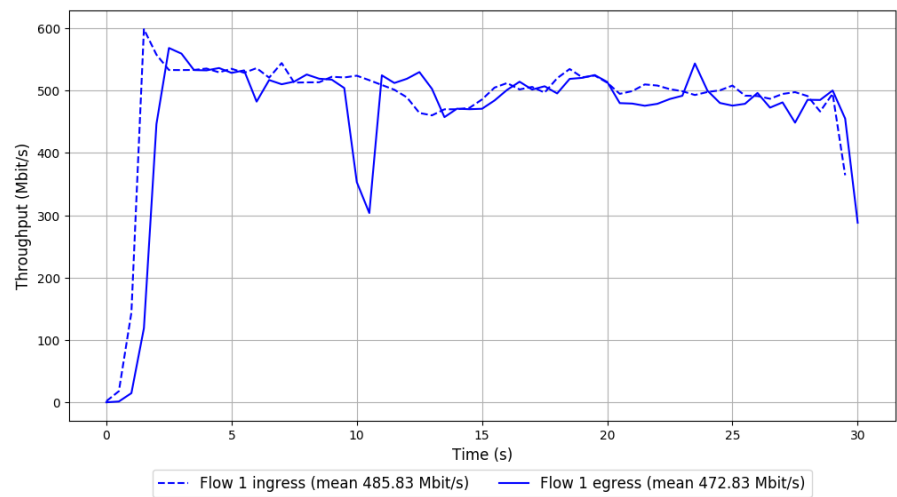


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-09-11 16:21:49
End at: 2018-09-11 16:22:19
Local clock offset: -0.236 ms
Remote clock offset: 0.202 ms

# Below is generated by plot.py at 2018-09-11 19:40:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 472.83 Mbit/s
95th percentile per-packet one-way delay: 163.639 ms
Loss rate: 3.03%
-- Flow 1:
Average throughput: 472.83 Mbit/s
95th percentile per-packet one-way delay: 163.639 ms
Loss rate: 3.03%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-09-11 16:47:48

End at: 2018-09-11 16:48:18

Local clock offset: 0.132 ms

Remote clock offset: -1.31 ms

Below is generated by plot.py at 2018-09-11 19:40:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 423.54 Mbit/s

95th percentile per-packet one-way delay: 161.171 ms

Loss rate: 1.27%

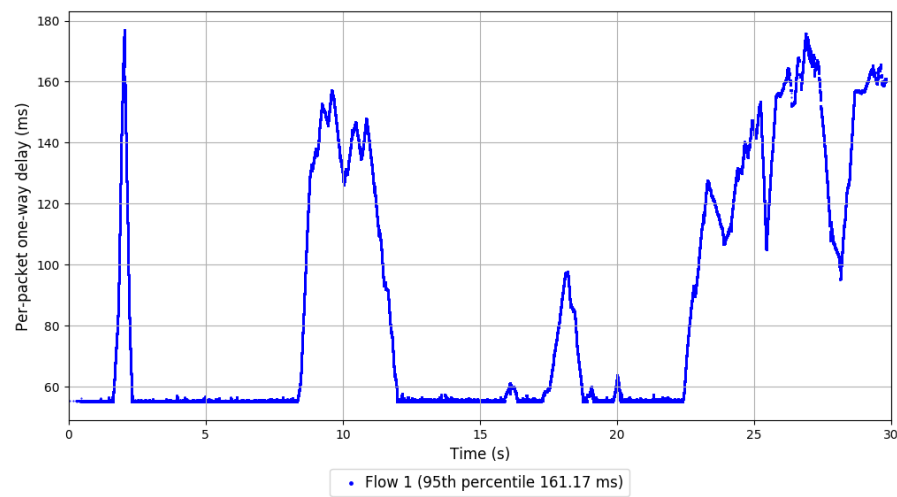
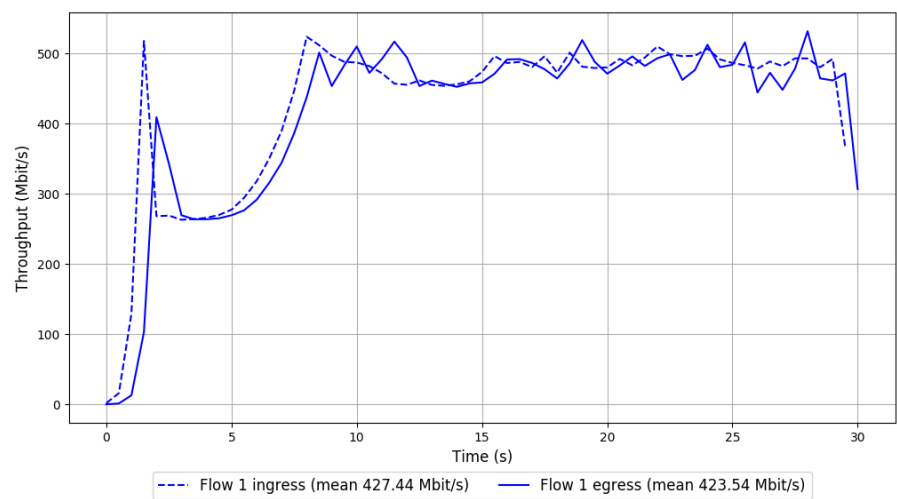
-- Flow 1:

Average throughput: 423.54 Mbit/s

95th percentile per-packet one-way delay: 161.171 ms

Loss rate: 1.27%

Run 2: Report of PCC-Allegro — Data Link

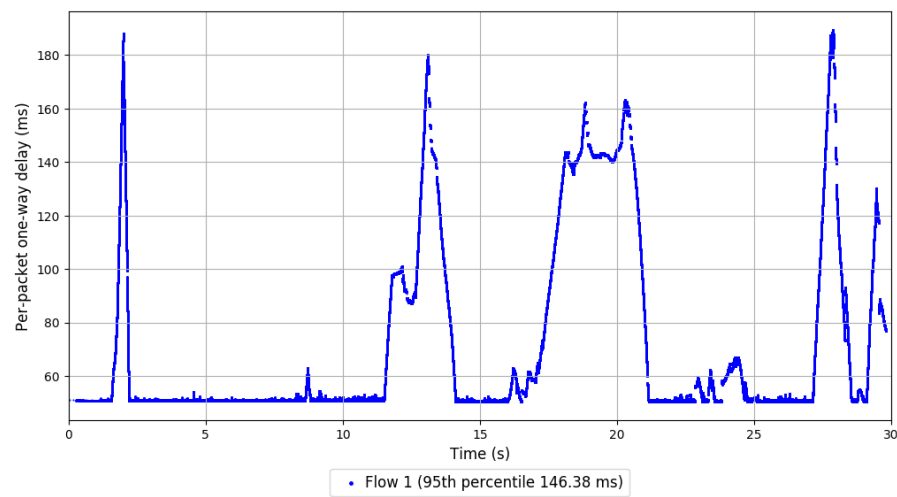
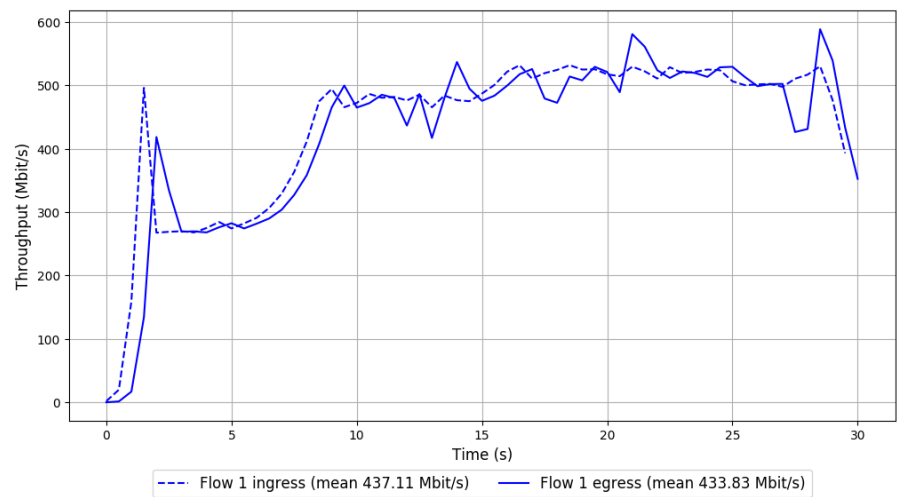


Run 3: Statistics of PCC-Allegro

Start at: 2018-09-11 17:13:51
End at: 2018-09-11 17:14:21
Local clock offset: -0.058 ms
Remote clock offset: -0.266 ms

Below is generated by plot.py at 2018-09-11 19:48:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 433.83 Mbit/s
95th percentile per-packet one-way delay: 146.384 ms
Loss rate: 1.10%
-- Flow 1:
Average throughput: 433.83 Mbit/s
95th percentile per-packet one-way delay: 146.384 ms
Loss rate: 1.10%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-09-11 17:39:58

End at: 2018-09-11 17:40:28

Local clock offset: -0.18 ms

Remote clock offset: -0.294 ms

Below is generated by plot.py at 2018-09-11 19:52:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 484.76 Mbit/s

95th percentile per-packet one-way delay: 157.895 ms

Loss rate: 1.63%

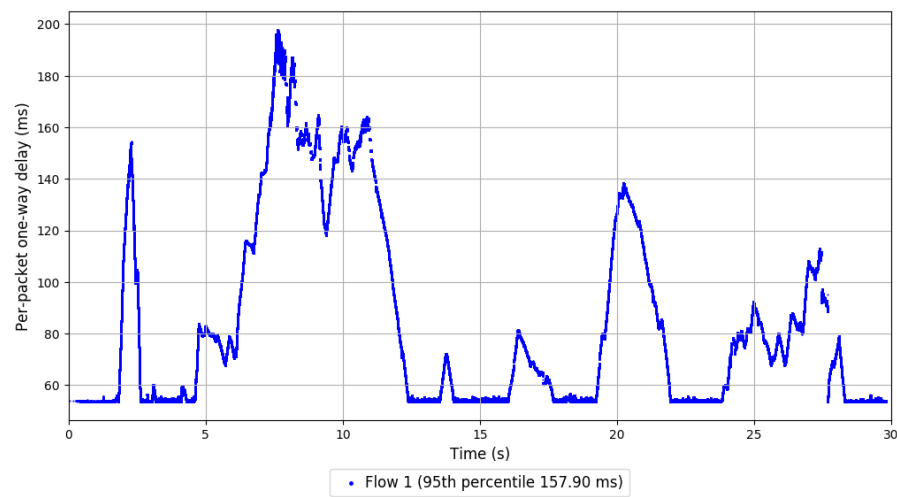
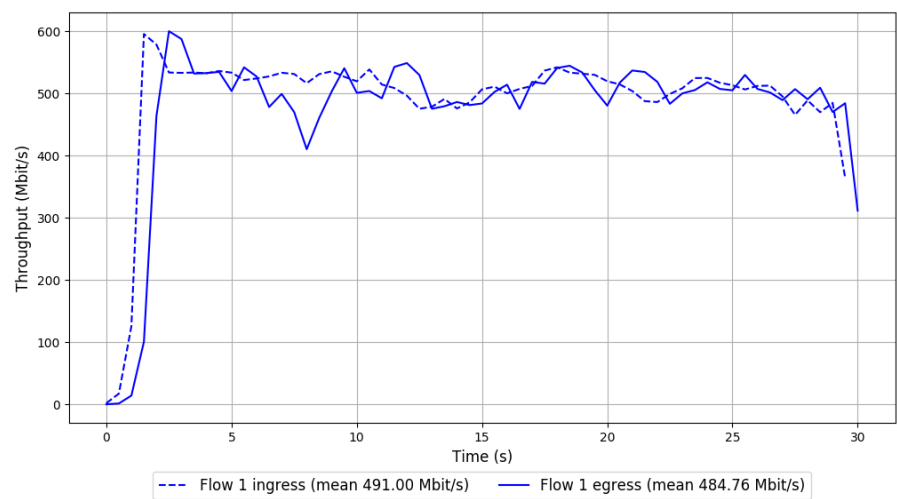
-- Flow 1:

Average throughput: 484.76 Mbit/s

95th percentile per-packet one-way delay: 157.895 ms

Loss rate: 1.63%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-09-11 18:06:22

End at: 2018-09-11 18:06:52

Local clock offset: -0.212 ms

Remote clock offset: 0.921 ms

Below is generated by plot.py at 2018-09-11 19:53:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 476.24 Mbit/s

95th percentile per-packet one-way delay: 160.745 ms

Loss rate: 2.75%

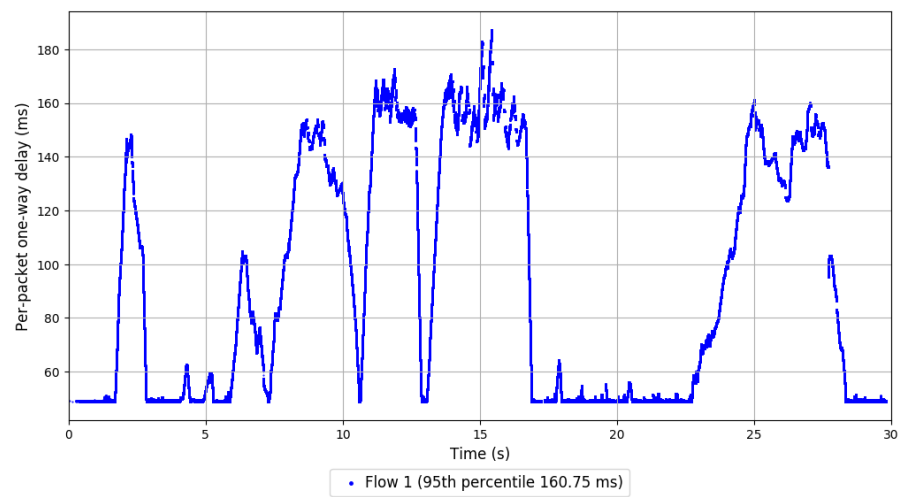
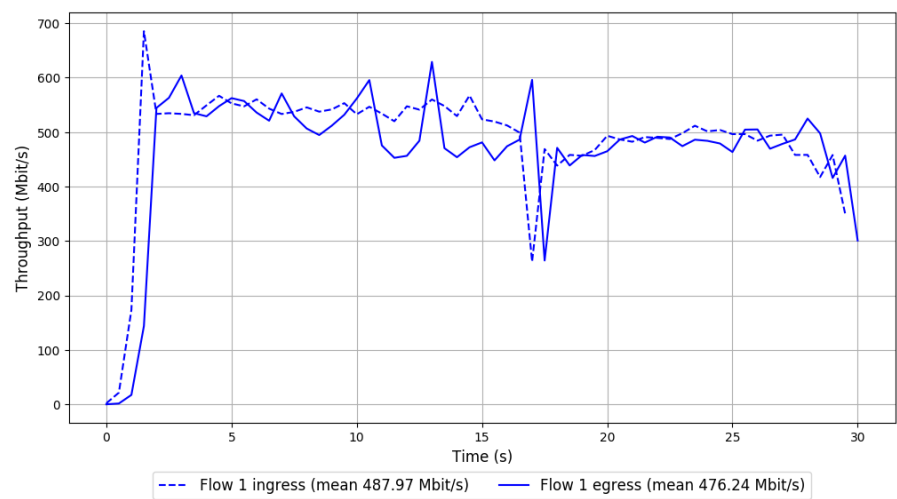
-- Flow 1:

Average throughput: 476.24 Mbit/s

95th percentile per-packet one-way delay: 160.745 ms

Loss rate: 2.75%

Run 5: Report of PCC-Allegro — Data Link

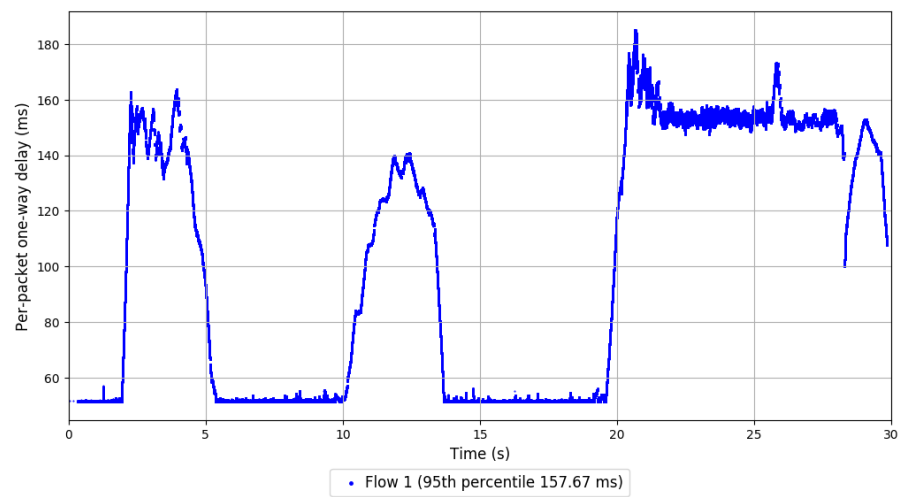
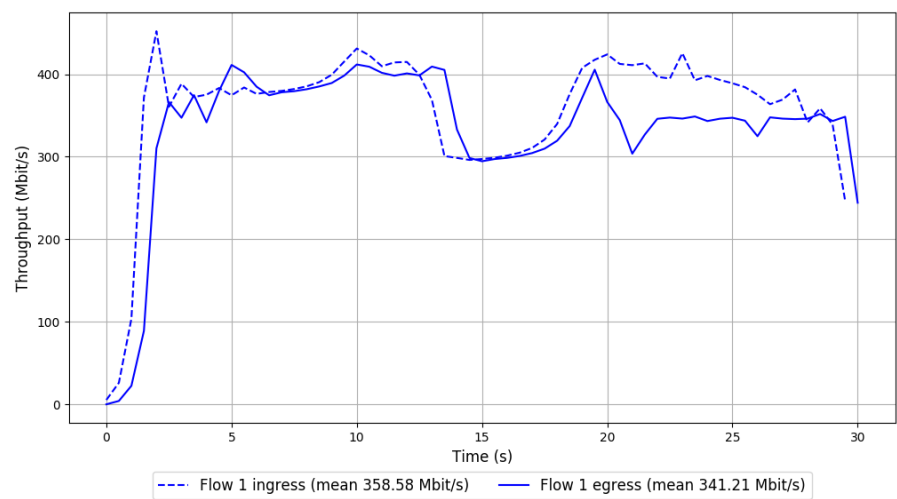


Run 1: Statistics of PCC-Expr

Start at: 2018-09-11 16:13:35
End at: 2018-09-11 16:14:05
Local clock offset: 0.051 ms
Remote clock offset: -1.507 ms

Below is generated by plot.py at 2018-09-11 19:53:01
Datalink statistics
-- Total of 1 flow:
Average throughput: 341.21 Mbit/s
95th percentile per-packet one-way delay: 157.667 ms
Loss rate: 5.18%
-- Flow 1:
Average throughput: 341.21 Mbit/s
95th percentile per-packet one-way delay: 157.667 ms
Loss rate: 5.18%

Run 1: Report of PCC-Expr — Data Link

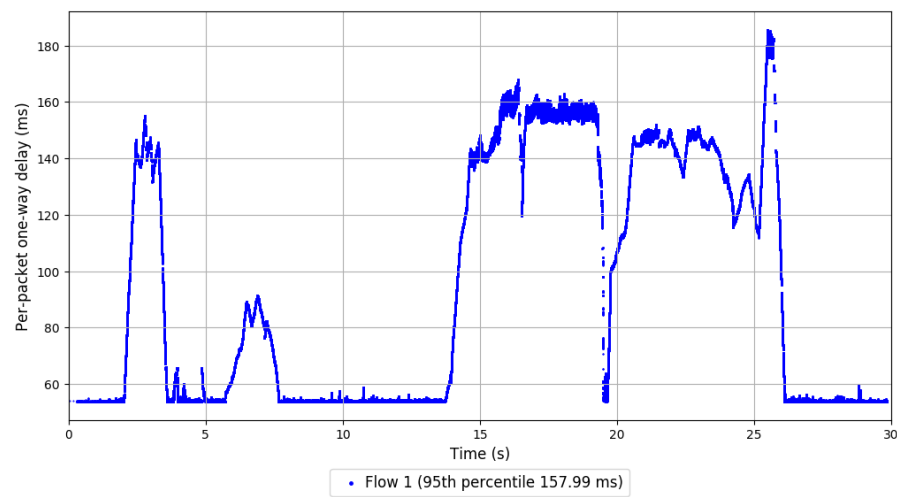
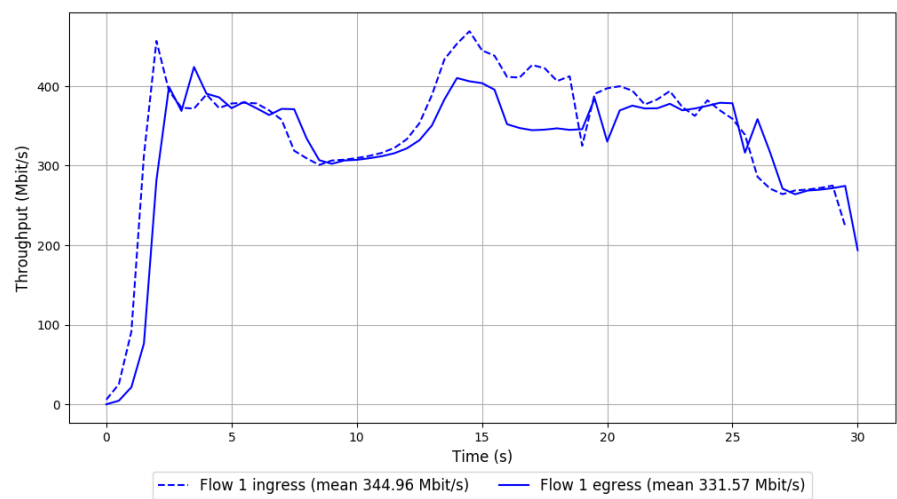


Run 2: Statistics of PCC-Expr

Start at: 2018-09-11 16:39:34
End at: 2018-09-11 16:40:04
Local clock offset: 0.062 ms
Remote clock offset: -0.087 ms

Below is generated by plot.py at 2018-09-11 19:53:01
Datalink statistics
-- Total of 1 flow:
Average throughput: 331.57 Mbit/s
95th percentile per-packet one-way delay: 157.993 ms
Loss rate: 4.23%
-- Flow 1:
Average throughput: 331.57 Mbit/s
95th percentile per-packet one-way delay: 157.993 ms
Loss rate: 4.23%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-09-11 17:05:38

End at: 2018-09-11 17:06:09

Local clock offset: 0.194 ms

Remote clock offset: 0.639 ms

Below is generated by plot.py at 2018-09-11 19:53:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 323.47 Mbit/s

95th percentile per-packet one-way delay: 155.826 ms

Loss rate: 4.80%

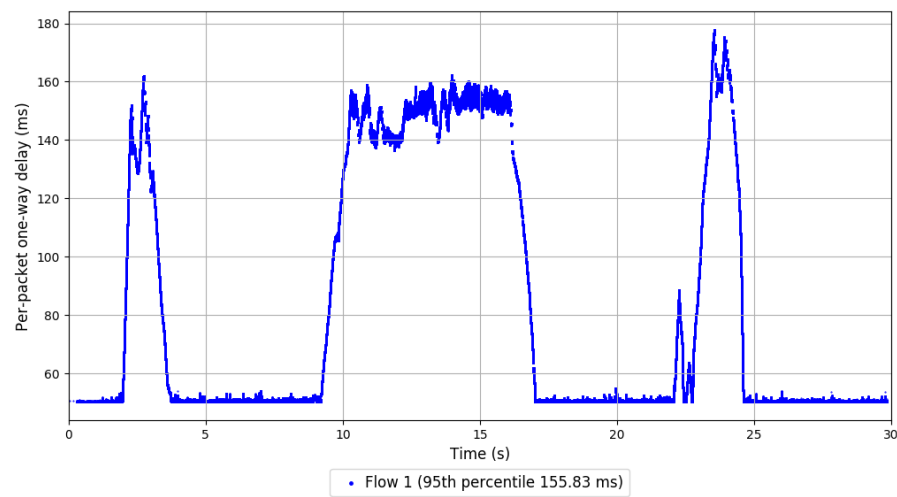
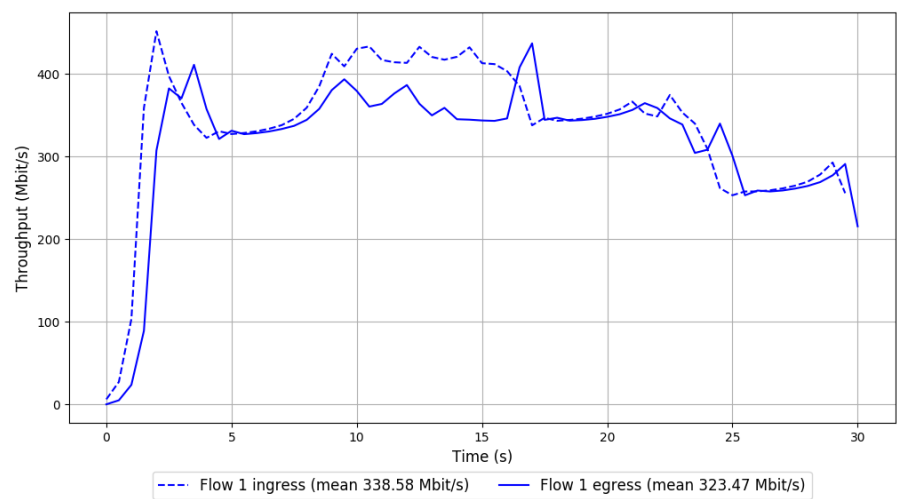
-- Flow 1:

Average throughput: 323.47 Mbit/s

95th percentile per-packet one-way delay: 155.826 ms

Loss rate: 4.80%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2018-09-11 17:31:45

End at: 2018-09-11 17:32:15

Local clock offset: -0.006 ms

Remote clock offset: 0.539 ms

Below is generated by plot.py at 2018-09-11 19:53:44

Datalink statistics

-- Total of 1 flow:

Average throughput: 324.70 Mbit/s

95th percentile per-packet one-way delay: 141.219 ms

Loss rate: 3.60%

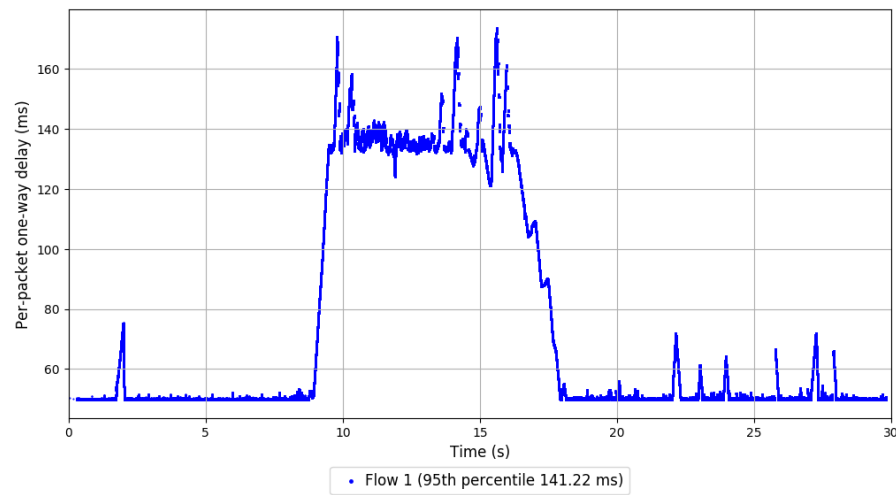
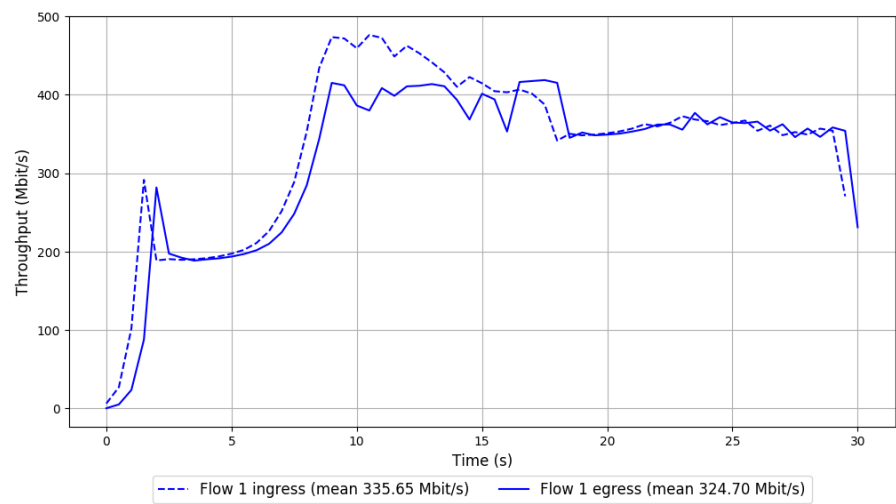
-- Flow 1:

Average throughput: 324.70 Mbit/s

95th percentile per-packet one-way delay: 141.219 ms

Loss rate: 3.60%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-09-11 17:58:00

End at: 2018-09-11 17:58:30

Local clock offset: -0.25 ms

Remote clock offset: 0.418 ms

Below is generated by plot.py at 2018-09-11 19:54:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 343.56 Mbit/s

95th percentile per-packet one-way delay: 133.288 ms

Loss rate: 0.84%

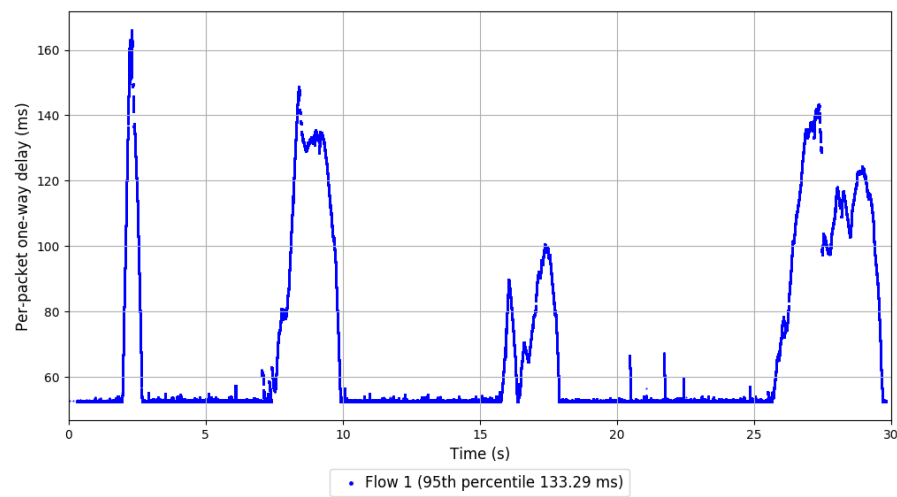
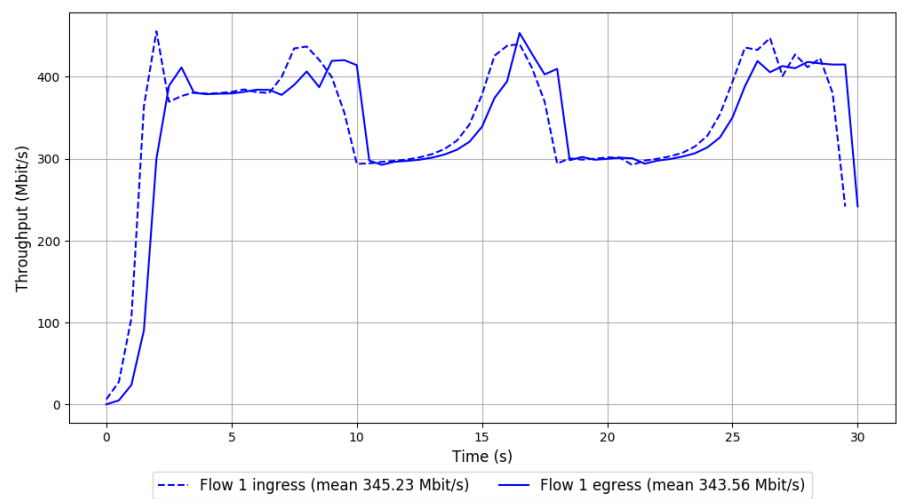
-- Flow 1:

Average throughput: 343.56 Mbit/s

95th percentile per-packet one-way delay: 133.288 ms

Loss rate: 0.84%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-09-11 16:16:20

End at: 2018-09-11 16:16:50

Local clock offset: -0.103 ms

Remote clock offset: 0.907 ms

Below is generated by plot.py at 2018-09-11 19:54:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 52.67 Mbit/s

95th percentile per-packet one-way delay: 52.342 ms

Loss rate: 0.71%

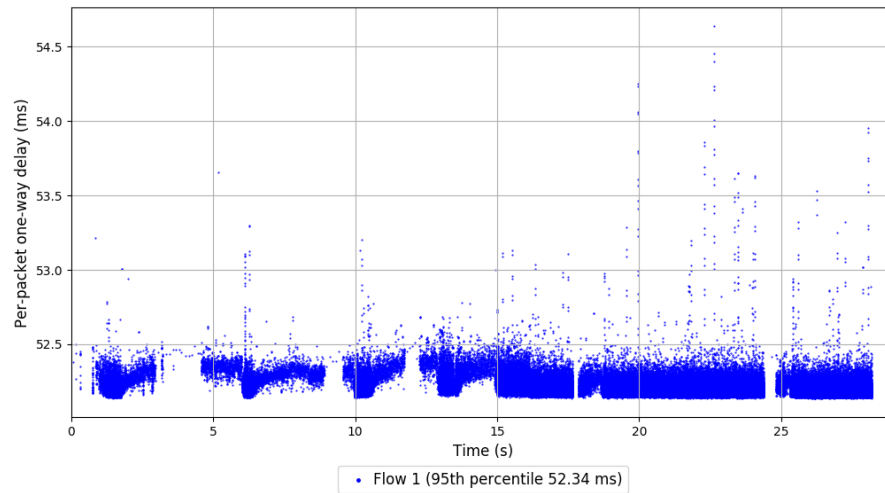
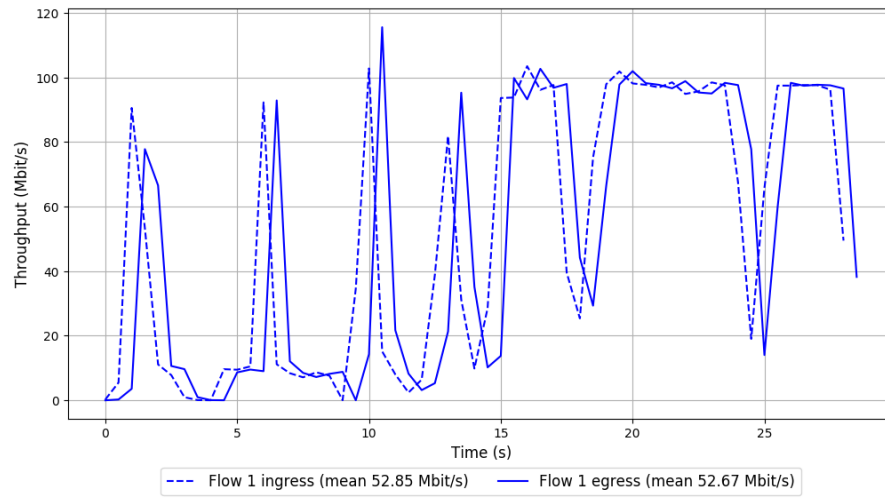
-- Flow 1:

Average throughput: 52.67 Mbit/s

95th percentile per-packet one-way delay: 52.342 ms

Loss rate: 0.71%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-09-11 16:42:18

End at: 2018-09-11 16:42:48

Local clock offset: 0.198 ms

Remote clock offset: -0.796 ms

Below is generated by plot.py at 2018-09-11 19:54:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 66.49 Mbit/s

95th percentile per-packet one-way delay: 54.624 ms

Loss rate: 0.55%

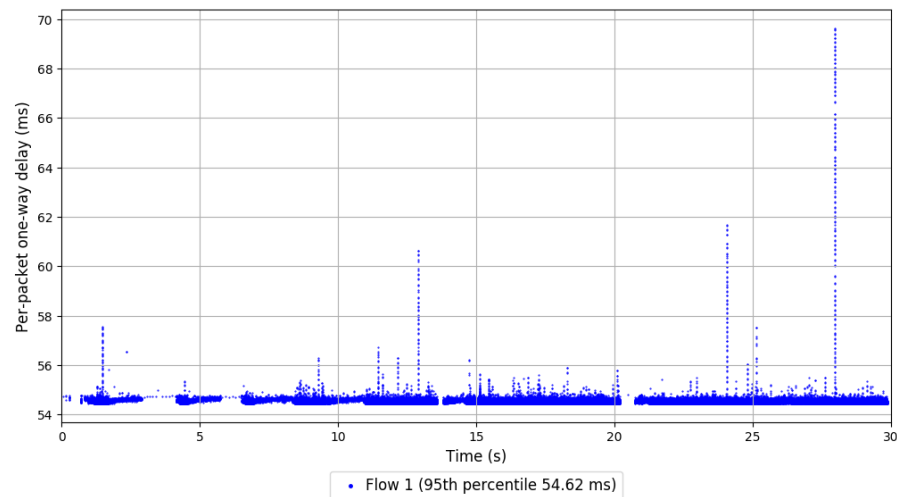
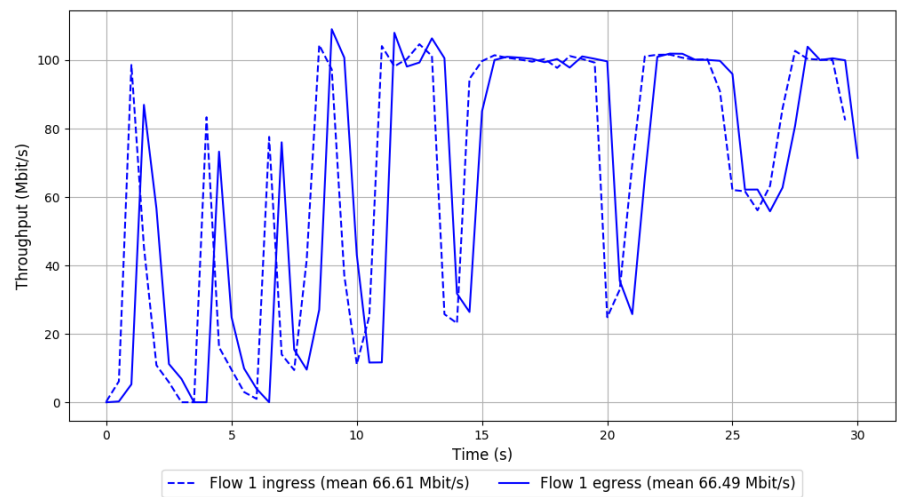
-- Flow 1:

Average throughput: 66.49 Mbit/s

95th percentile per-packet one-way delay: 54.624 ms

Loss rate: 0.55%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-09-11 17:08:22

End at: 2018-09-11 17:08:52

Local clock offset: 0.111 ms

Remote clock offset: -0.055 ms

Below is generated by plot.py at 2018-09-11 19:54:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 58.78 Mbit/s

95th percentile per-packet one-way delay: 53.861 ms

Loss rate: 0.60%

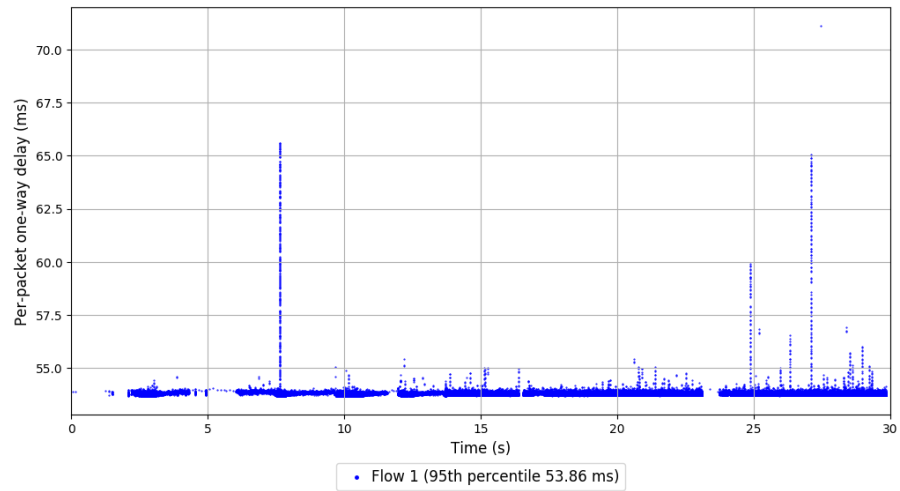
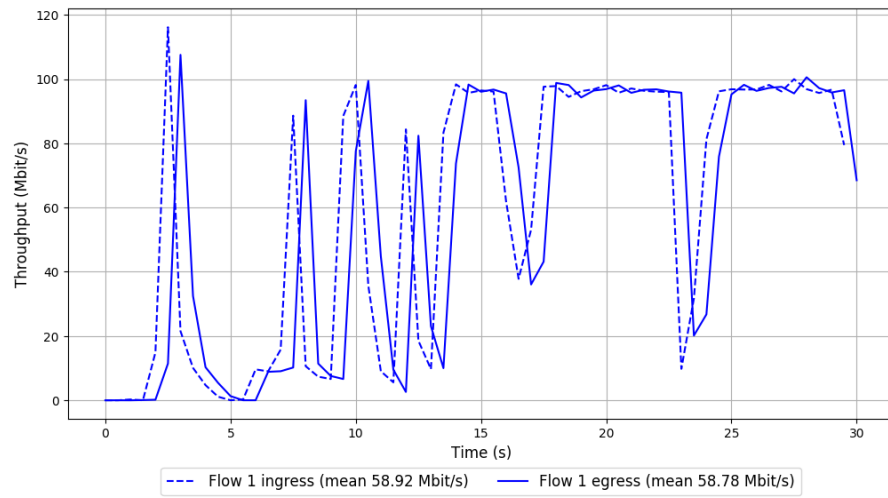
-- Flow 1:

Average throughput: 58.78 Mbit/s

95th percentile per-packet one-way delay: 53.861 ms

Loss rate: 0.60%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-09-11 17:34:27

End at: 2018-09-11 17:34:57

Local clock offset: 0.028 ms

Remote clock offset: 0.654 ms

Below is generated by plot.py at 2018-09-11 19:54:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 64.84 Mbit/s

95th percentile per-packet one-way delay: 53.037 ms

Loss rate: 0.57%

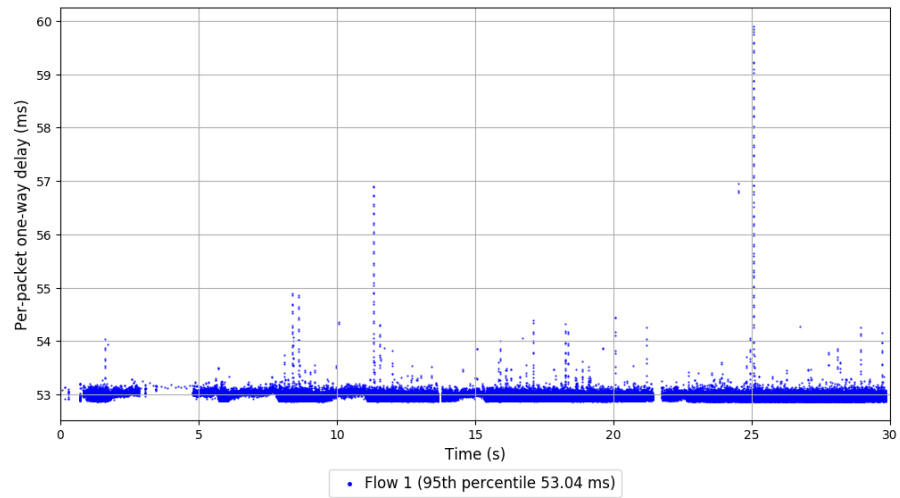
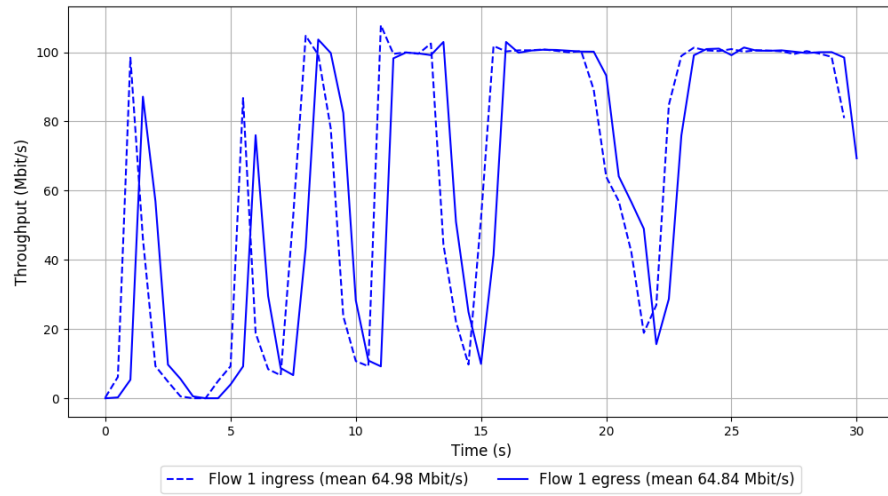
-- Flow 1:

Average throughput: 64.84 Mbit/s

95th percentile per-packet one-way delay: 53.037 ms

Loss rate: 0.57%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-09-11 18:00:45

End at: 2018-09-11 18:01:15

Local clock offset: 0.156 ms

Remote clock offset: 1.195 ms

Below is generated by plot.py at 2018-09-11 19:54:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 51.96 Mbit/s

95th percentile per-packet one-way delay: 49.535 ms

Loss rate: 0.63%

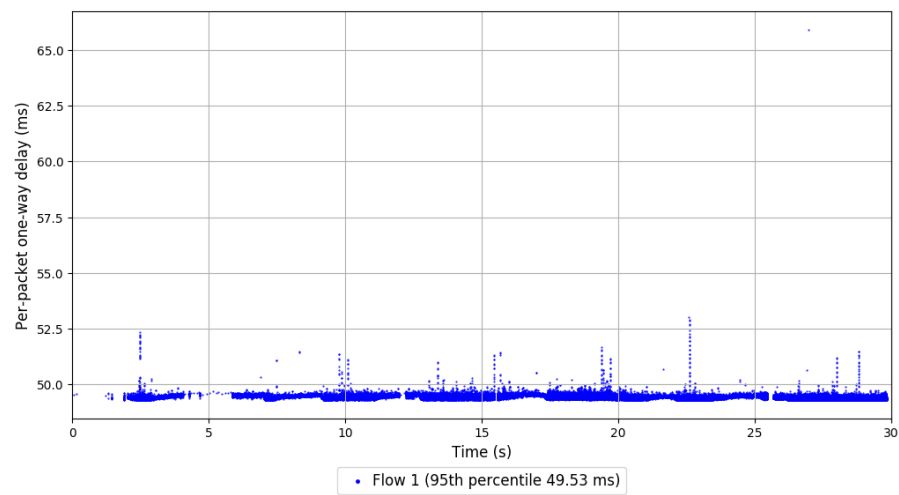
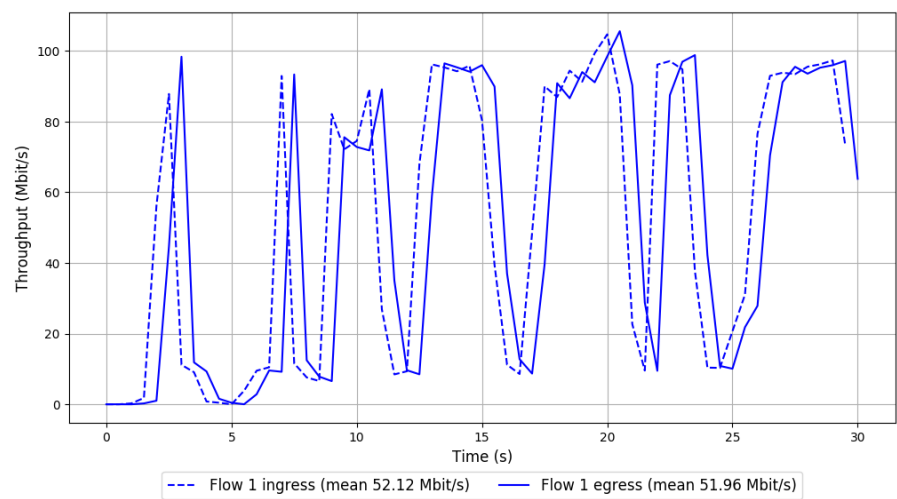
-- Flow 1:

Average throughput: 51.96 Mbit/s

95th percentile per-packet one-way delay: 49.535 ms

Loss rate: 0.63%

Run 5: Report of QUIC Cubic — Data Link

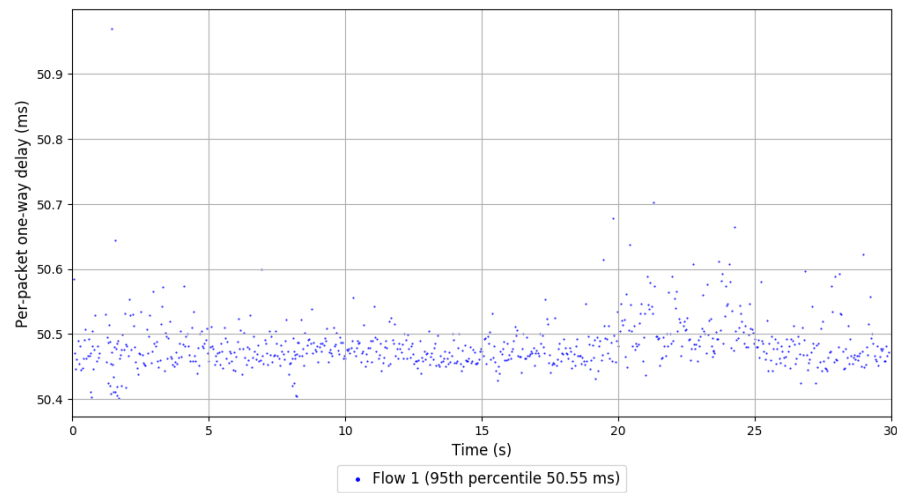
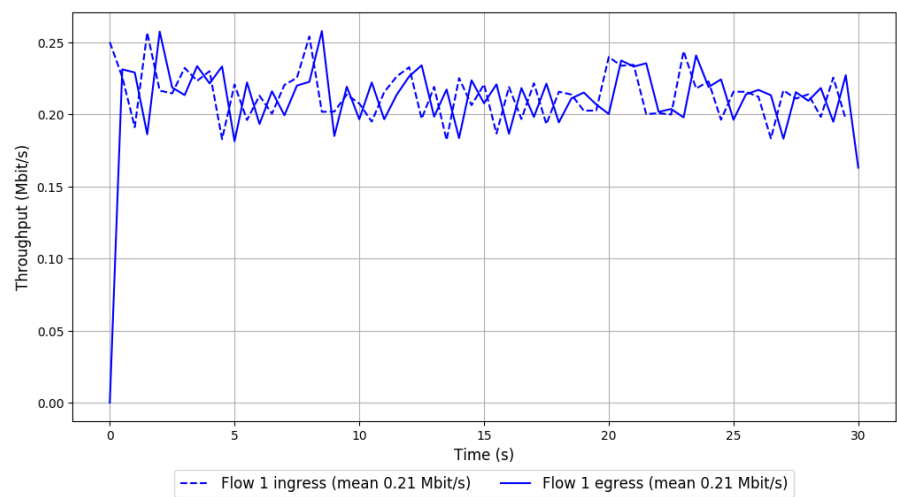


```
Run 1: Statistics of SCReAM

Start at: 2018-09-11 16:26:25
End at: 2018-09-11 16:26:55
Local clock offset: -0.053 ms
Remote clock offset: -0.167 ms

# Below is generated by plot.py at 2018-09-11 19:54:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 50.553 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 50.553 ms
Loss rate: 0.39%
```

Run 1: Report of SReAM — Data Link

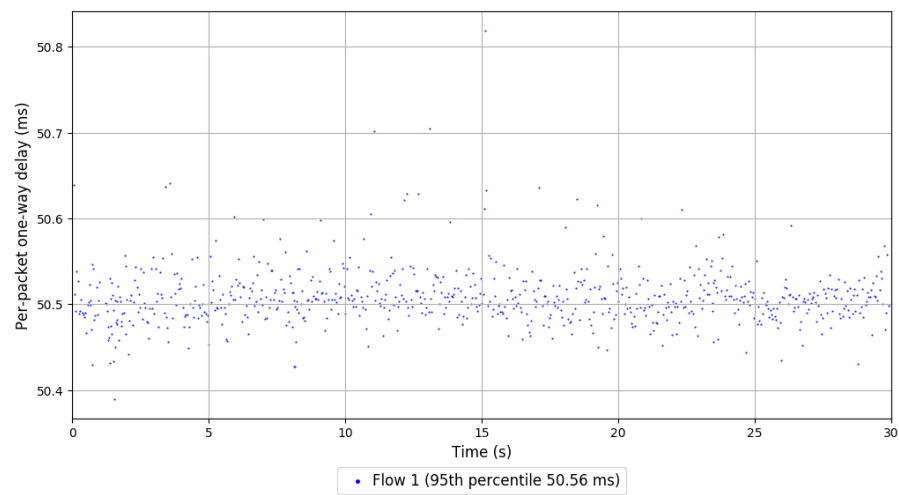
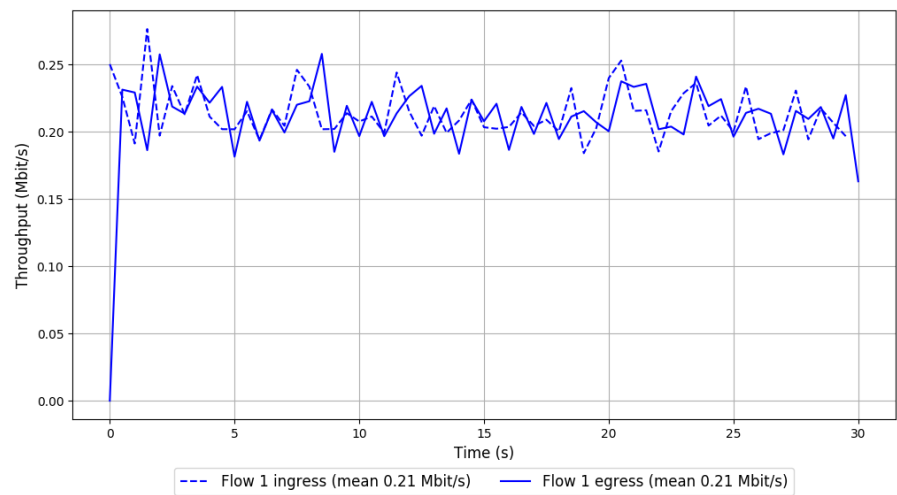


Run 2: Statistics of SCReAM

Start at: 2018-09-11 16:52:30
End at: 2018-09-11 16:53:00
Local clock offset: -0.01 ms
Remote clock offset: -0.154 ms

Below is generated by plot.py at 2018-09-11 19:54:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 50.557 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 50.557 ms
Loss rate: 0.39%

Run 2: Report of SReAM — Data Link

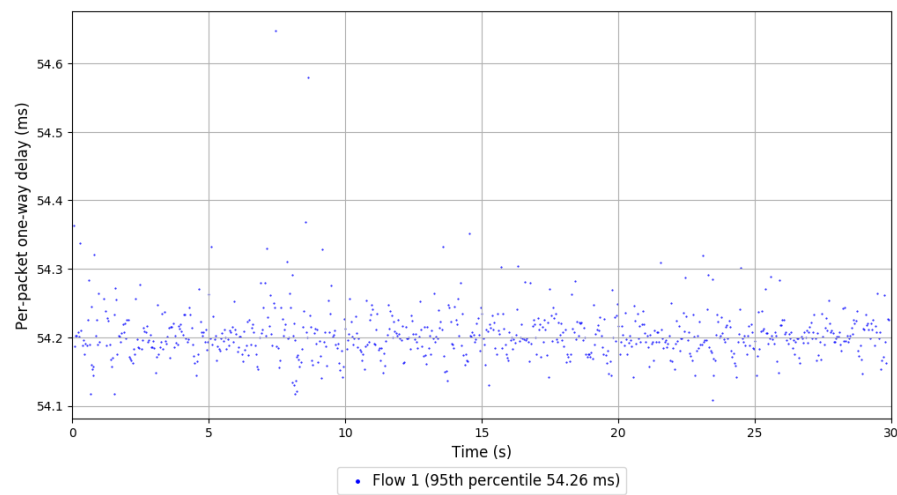
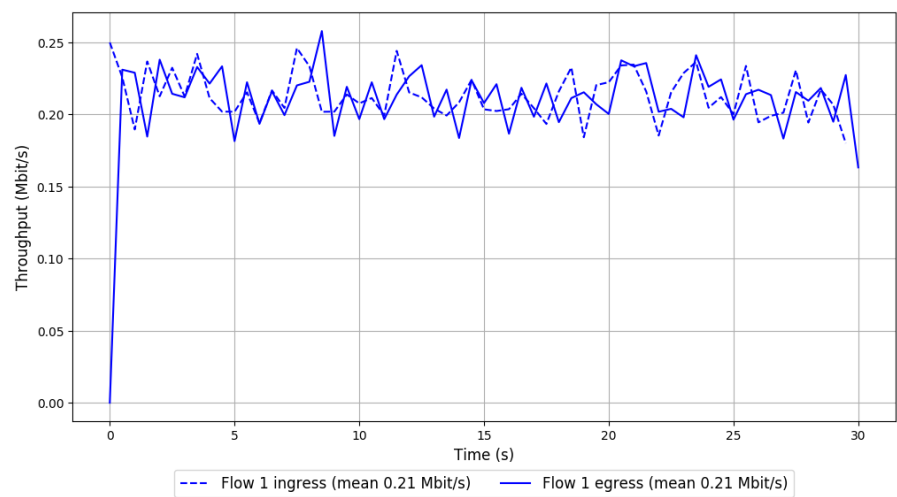


Run 3: Statistics of SCReAM

Start at: 2018-09-11 17:18:32
End at: 2018-09-11 17:19:02
Local clock offset: 0.074 ms
Remote clock offset: -0.671 ms

Below is generated by plot.py at 2018-09-11 19:54:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 54.264 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 54.264 ms
Loss rate: 0.26%

Run 3: Report of SReAM — Data Link

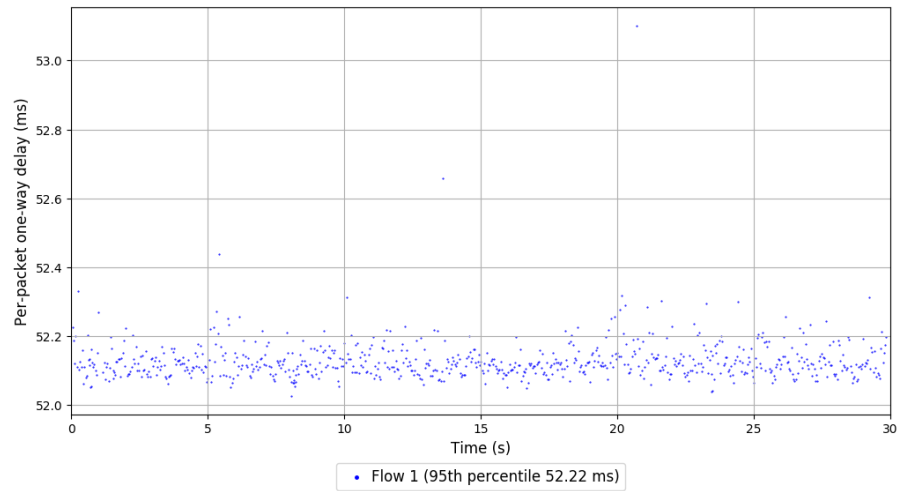
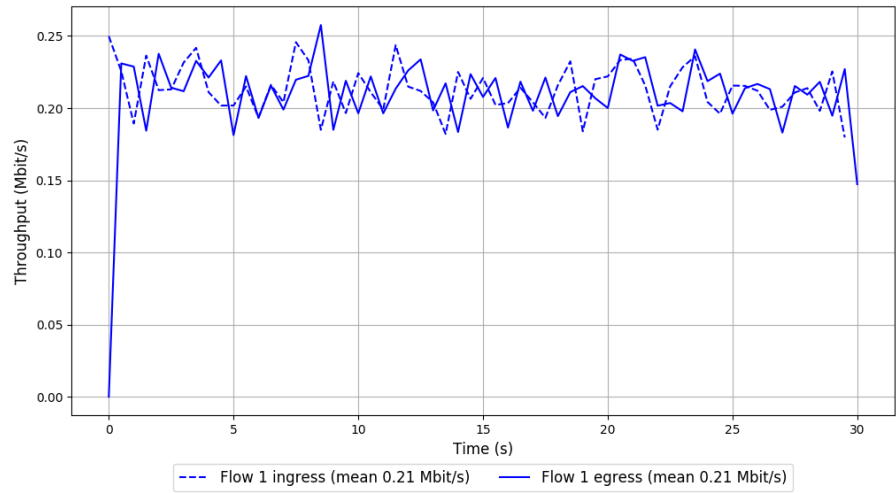


Run 4: Statistics of SCReAM

Start at: 2018-09-11 17:44:42
End at: 2018-09-11 17:45:12
Local clock offset: -0.036 ms
Remote clock offset: -1.492 ms

Below is generated by plot.py at 2018-09-11 19:54:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 52.215 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 52.215 ms
Loss rate: 0.38%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SCReAM

Start at: 2018-09-11 18:11:01

End at: 2018-09-11 18:11:31

Local clock offset: -0.051 ms

Remote clock offset: 0.057 ms

Below is generated by plot.py at 2018-09-11 19:54:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 53.248 ms

Loss rate: 0.38%

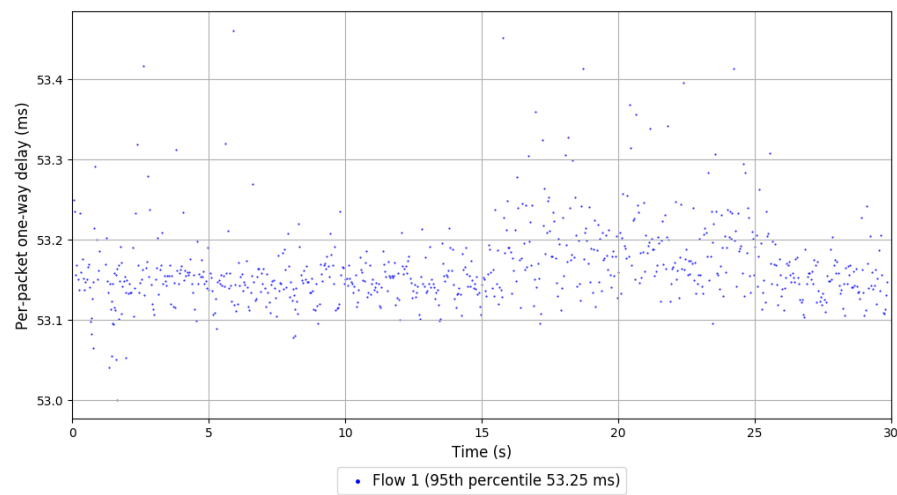
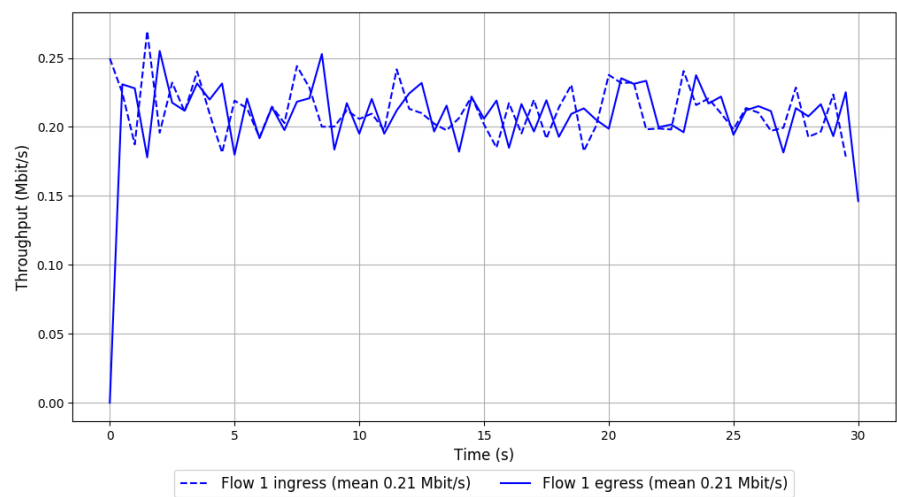
-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 53.248 ms

Loss rate: 0.38%

Run 5: Report of SReAM — Data Link

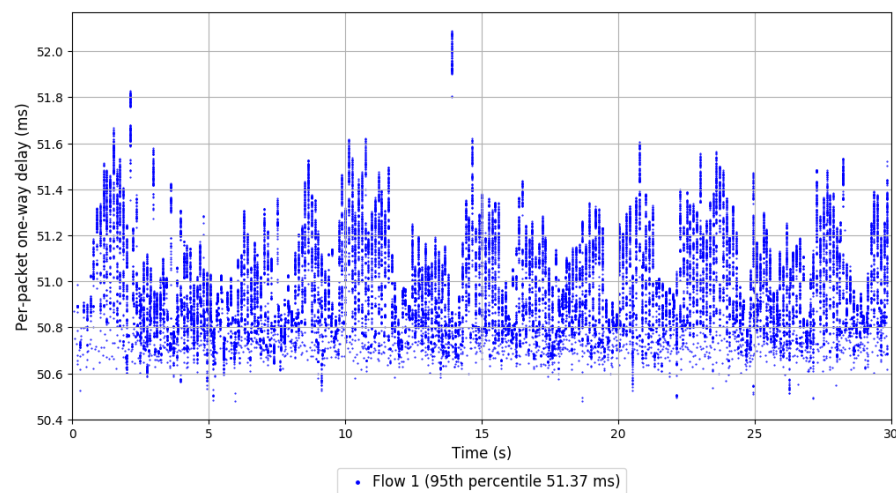
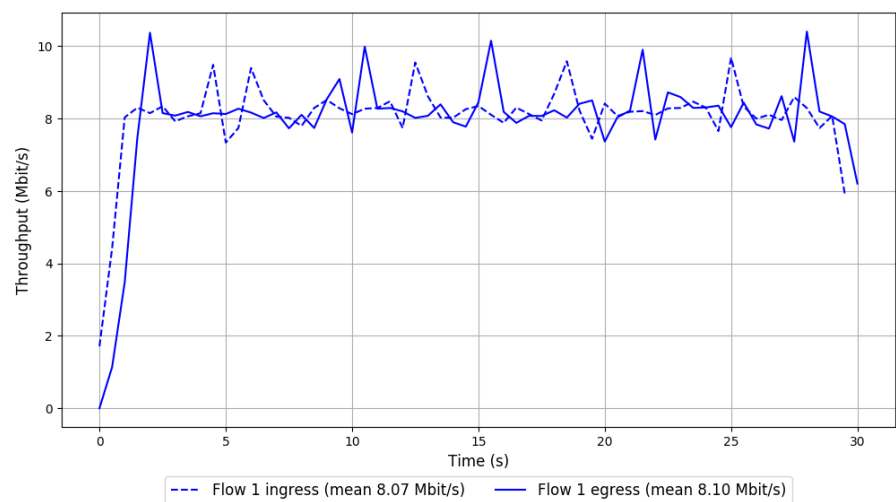


Run 1: Statistics of Sprout

Start at: 2018-09-11 16:15:12
End at: 2018-09-11 16:15:42
Local clock offset: 0.024 ms
Remote clock offset: -0.152 ms

Below is generated by plot.py at 2018-09-11 19:54:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 8.10 Mbit/s
95th percentile per-packet one-way delay: 51.371 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.10 Mbit/s
95th percentile per-packet one-way delay: 51.371 ms
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link

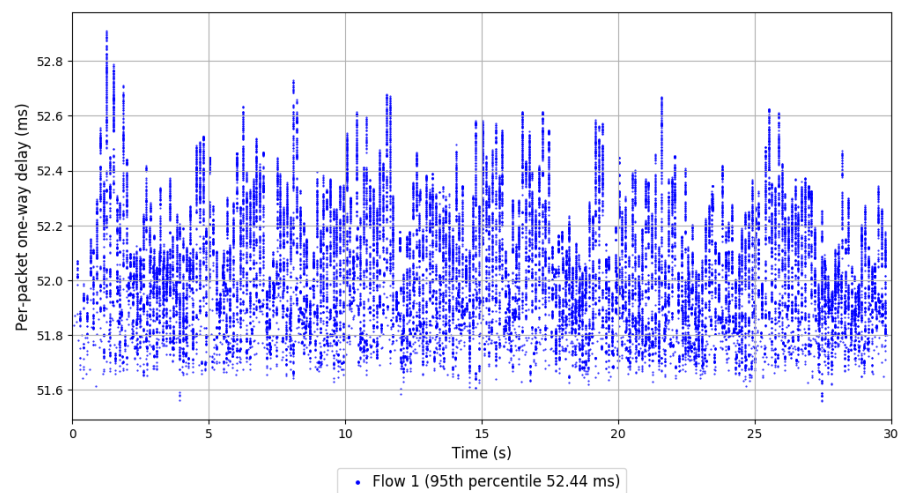
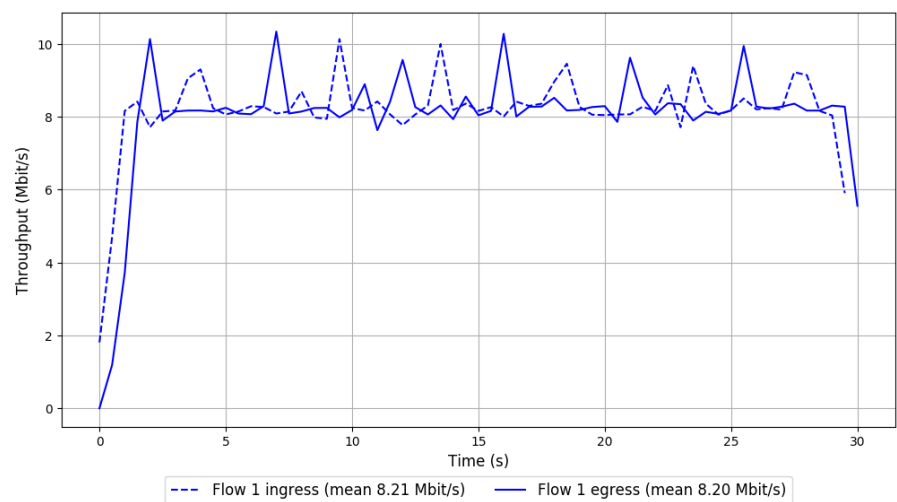


Run 2: Statistics of Sprout

Start at: 2018-09-11 16:41:10
End at: 2018-09-11 16:41:40
Local clock offset: -0.015 ms
Remote clock offset: -1.379 ms

Below is generated by plot.py at 2018-09-11 19:54:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 8.20 Mbit/s
95th percentile per-packet one-way delay: 52.438 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 8.20 Mbit/s
95th percentile per-packet one-way delay: 52.438 ms
Loss rate: 0.41%

Run 2: Report of Sprout — Data Link

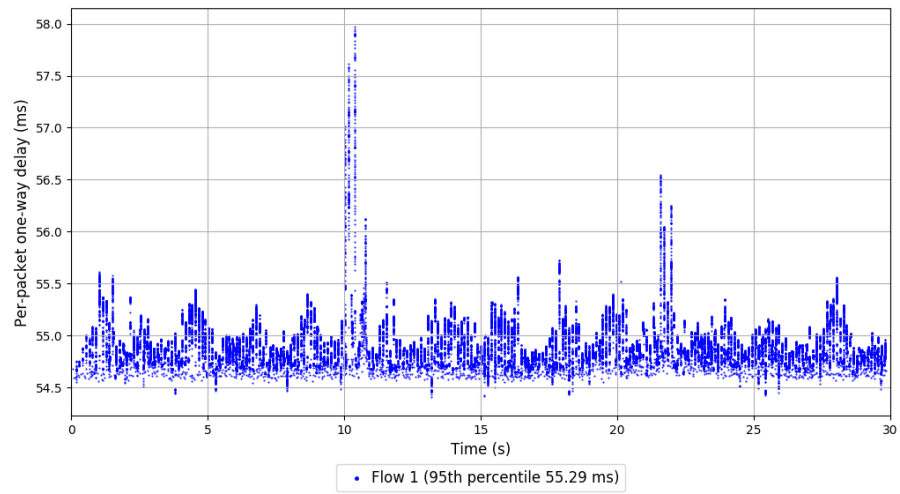
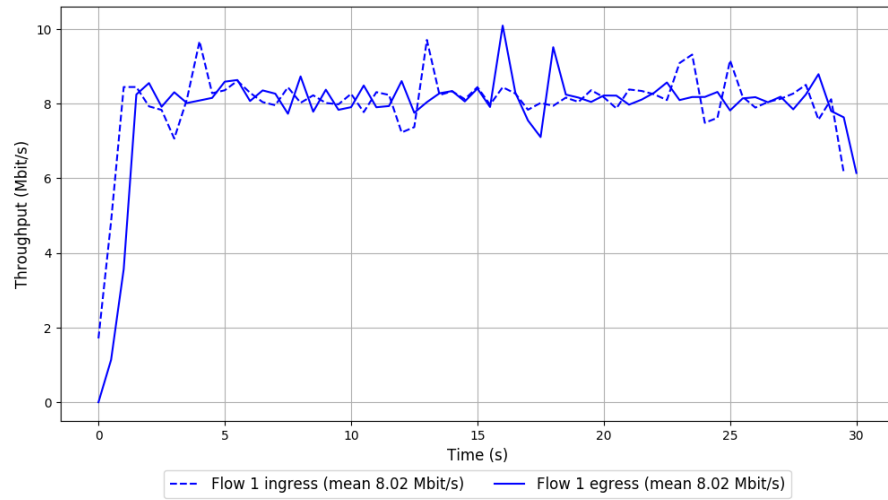


Run 3: Statistics of Sprout

Start at: 2018-09-11 17:07:14
End at: 2018-09-11 17:07:44
Local clock offset: -0.142 ms
Remote clock offset: -1.324 ms

Below is generated by plot.py at 2018-09-11 19:54:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 8.02 Mbit/s
95th percentile per-packet one-way delay: 55.294 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 8.02 Mbit/s
95th percentile per-packet one-way delay: 55.294 ms
Loss rate: 0.43%

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

Start at: 2018-09-11 17:33:20

End at: 2018-09-11 17:33:50

Local clock offset: -0.063 ms

Remote clock offset: -0.16 ms

Below is generated by plot.py at 2018-09-11 19:54:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 8.22 Mbit/s

95th percentile per-packet one-way delay: 51.172 ms

Loss rate: 0.40%

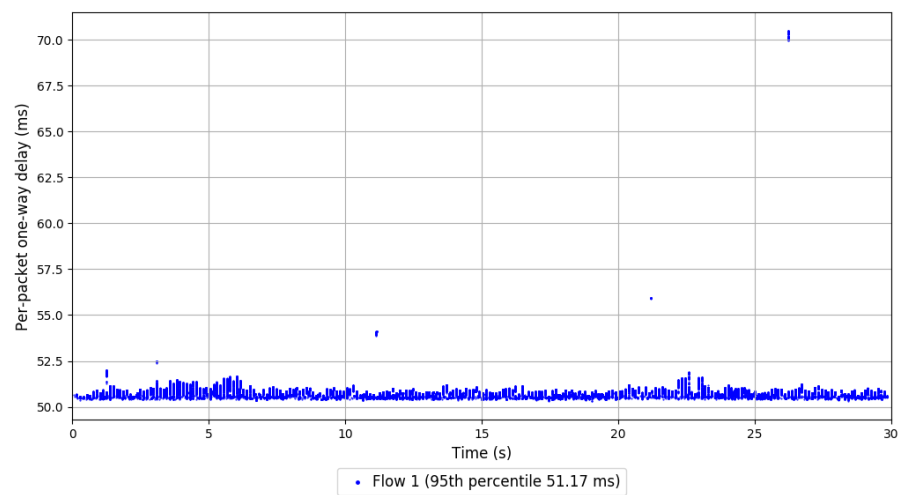
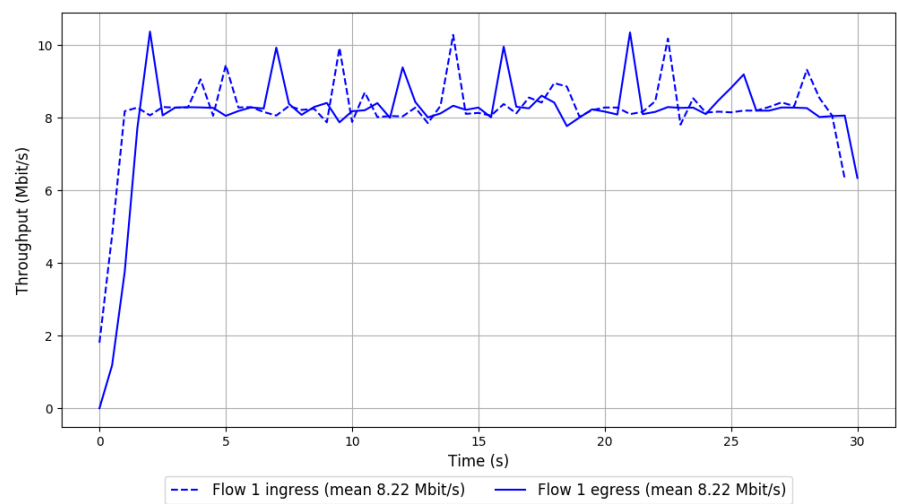
-- Flow 1:

Average throughput: 8.22 Mbit/s

95th percentile per-packet one-way delay: 51.172 ms

Loss rate: 0.40%

Run 4: Report of Sprout — Data Link

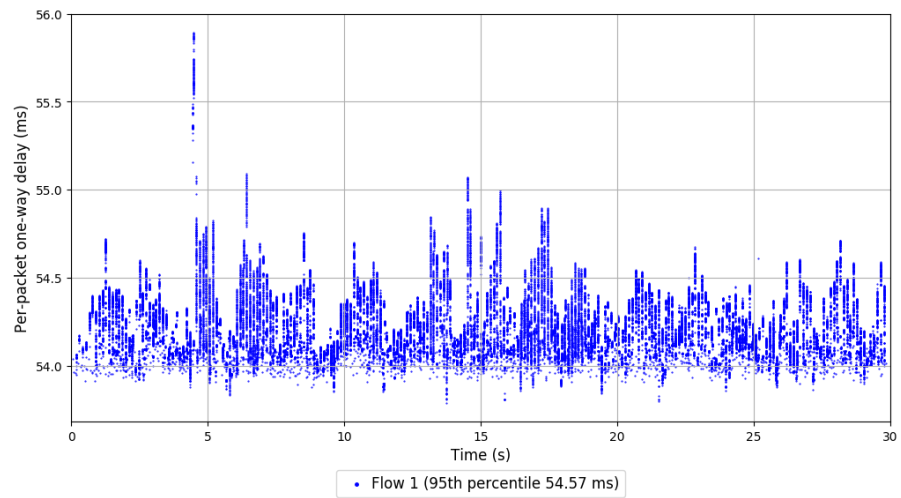
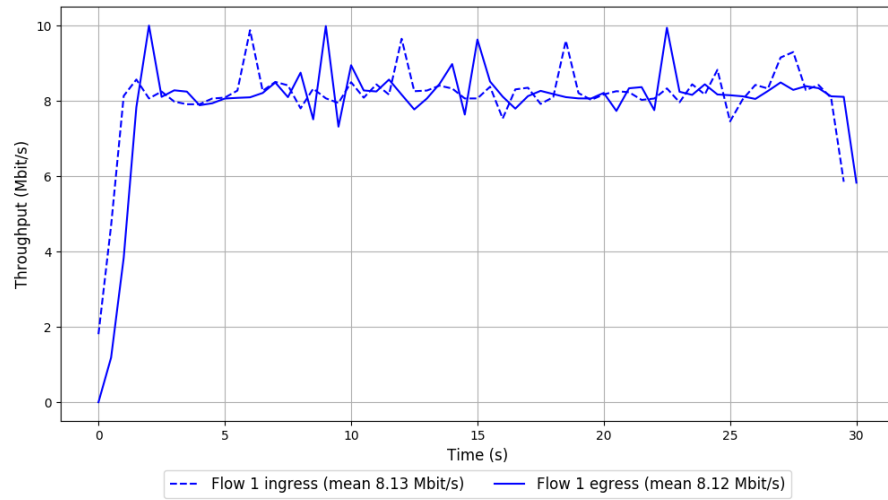


Run 5: Statistics of Sprout

Start at: 2018-09-11 17:59:37
End at: 2018-09-11 18:00:07
Local clock offset: 0.026 ms
Remote clock offset: -0.319 ms

Below is generated by plot.py at 2018-09-11 19:54:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 8.12 Mbit/s
95th percentile per-packet one-way delay: 54.568 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 8.12 Mbit/s
95th percentile per-packet one-way delay: 54.568 ms
Loss rate: 0.41%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-09-11 16:35:20

End at: 2018-09-11 16:35:50

Local clock offset: 0.131 ms

Remote clock offset: -1.534 ms

Below is generated by plot.py at 2018-09-11 19:58:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 240.43 Mbit/s

95th percentile per-packet one-way delay: 55.063 ms

Loss rate: 0.24%

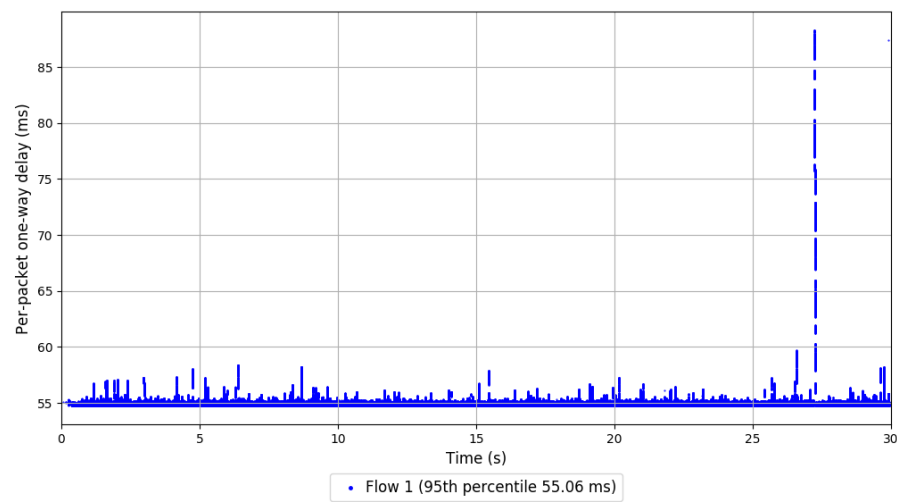
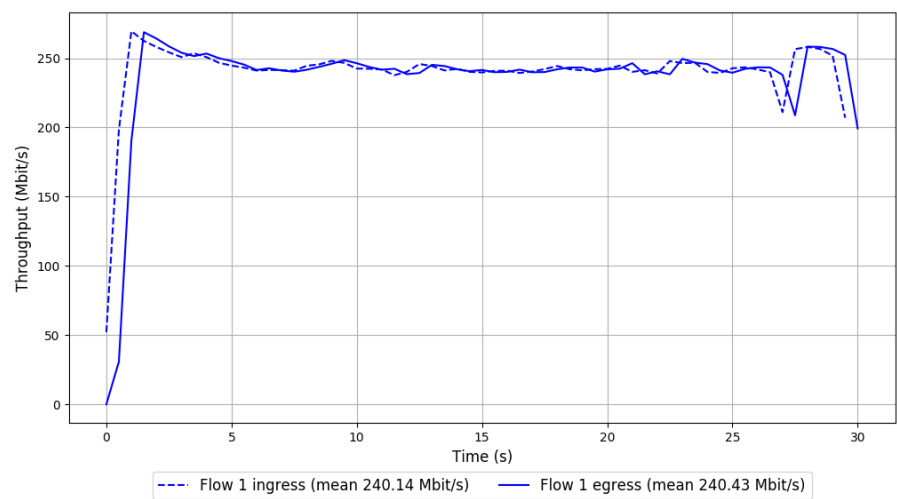
-- Flow 1:

Average throughput: 240.43 Mbit/s

95th percentile per-packet one-way delay: 55.063 ms

Loss rate: 0.24%

Run 1: Report of TaoVA-100x — Data Link



Run 2: Statistics of TaoVA-100x

Start at: 2018-09-11 17:01:25

End at: 2018-09-11 17:01:55

Local clock offset: -0.068 ms

Remote clock offset: -0.523 ms

Below is generated by plot.py at 2018-09-11 19:58:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 243.81 Mbit/s

95th percentile per-packet one-way delay: 51.226 ms

Loss rate: 0.35%

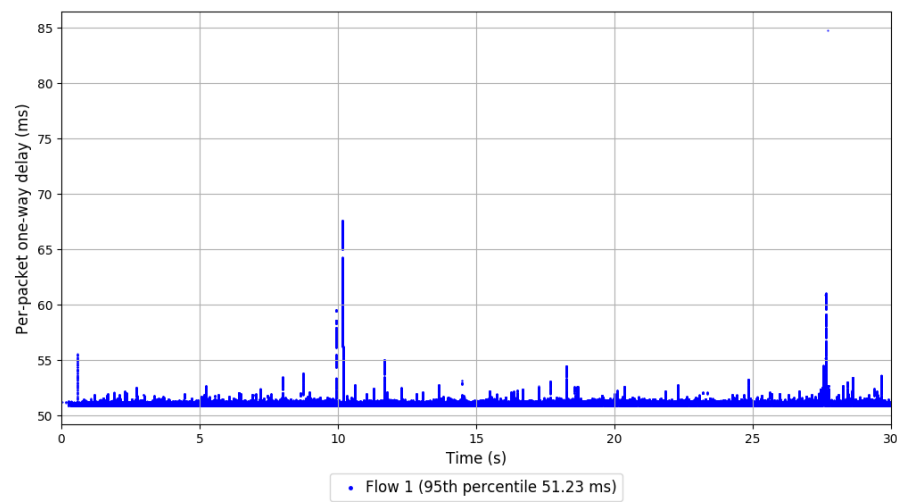
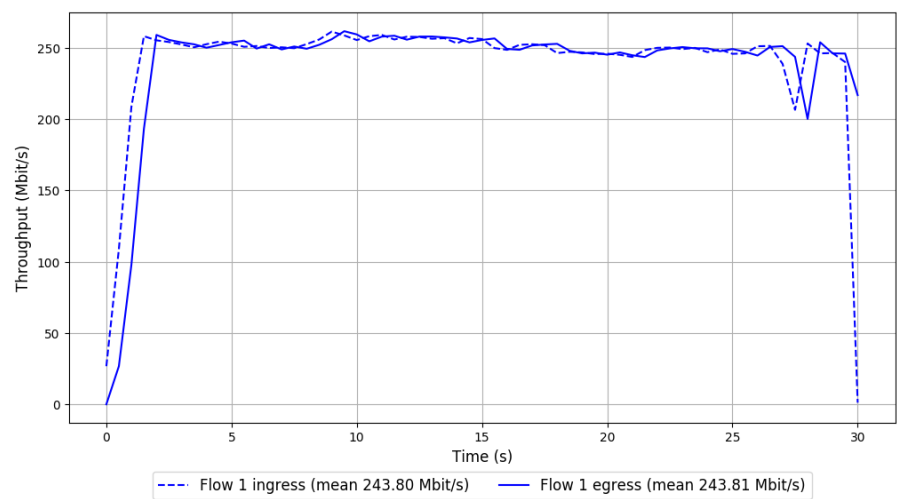
-- Flow 1:

Average throughput: 243.81 Mbit/s

95th percentile per-packet one-way delay: 51.226 ms

Loss rate: 0.35%

Run 2: Report of TaoVA-100x — Data Link

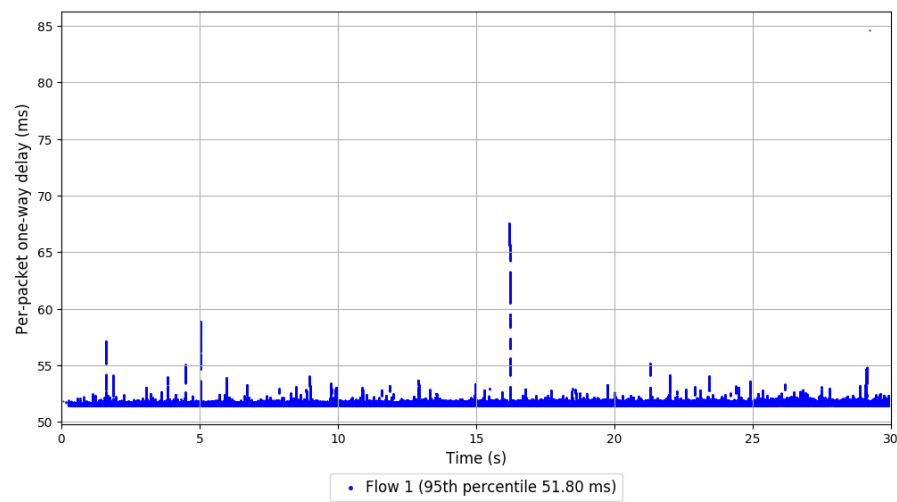
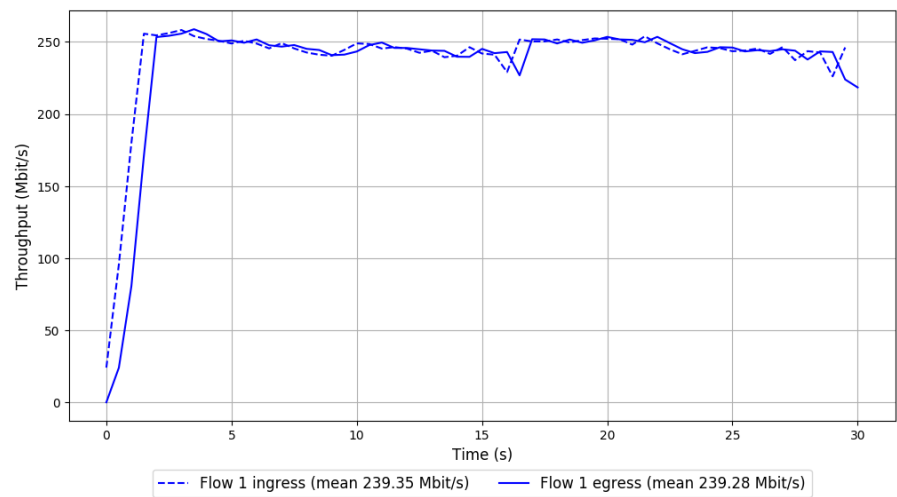


Run 3: Statistics of TaoVA-100x

Start at: 2018-09-11 17:27:31
End at: 2018-09-11 17:28:01
Local clock offset: 0.059 ms
Remote clock offset: -1.478 ms

Below is generated by plot.py at 2018-09-11 19:58:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 239.28 Mbit/s
95th percentile per-packet one-way delay: 51.803 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 239.28 Mbit/s
95th percentile per-packet one-way delay: 51.803 ms
Loss rate: 0.38%

Run 3: Report of TaoVA-100x — Data Link



Run 4: Statistics of TaoVA-100x

Start at: 2018-09-11 17:53:44

End at: 2018-09-11 17:54:14

Local clock offset: -0.173 ms

Remote clock offset: -0.825 ms

Below is generated by plot.py at 2018-09-11 19:58:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 238.09 Mbit/s

95th percentile per-packet one-way delay: 54.252 ms

Loss rate: 0.40%

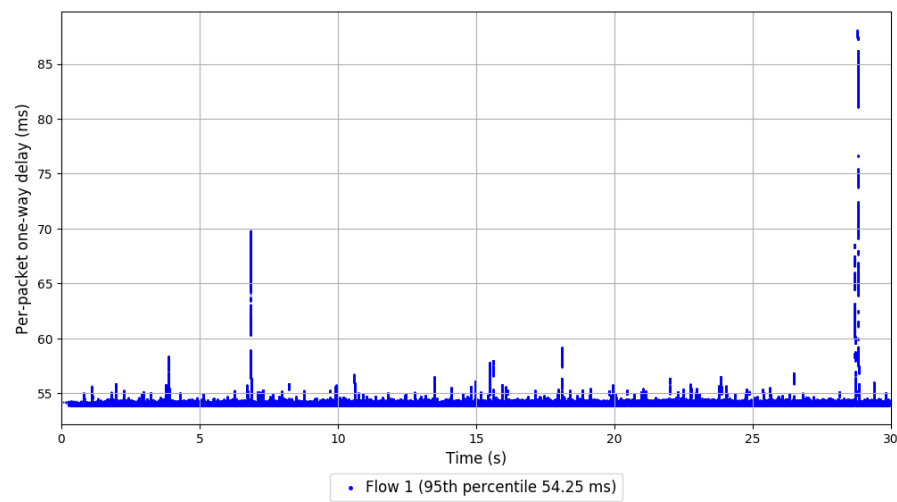
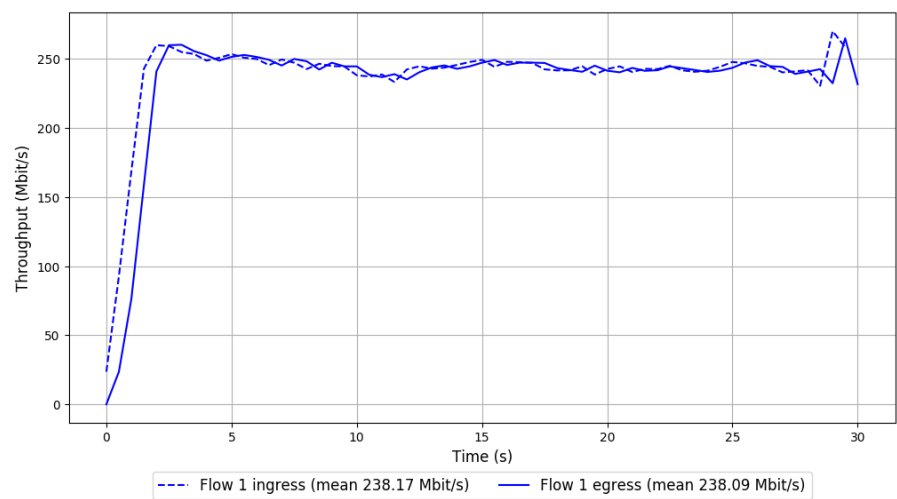
-- Flow 1:

Average throughput: 238.09 Mbit/s

95th percentile per-packet one-way delay: 54.252 ms

Loss rate: 0.40%

Run 4: Report of TaoVA-100x — Data Link



Run 5: Statistics of TaoVA-100x

Start at: 2018-09-11 18:19:59

End at: 2018-09-11 18:20:29

Local clock offset: 0.066 ms

Remote clock offset: 0.561 ms

Below is generated by plot.py at 2018-09-11 20:01:48

Datalink statistics

-- Total of 1 flow:

Average throughput: 240.70 Mbit/s

95th percentile per-packet one-way delay: 49.766 ms

Loss rate: 0.27%

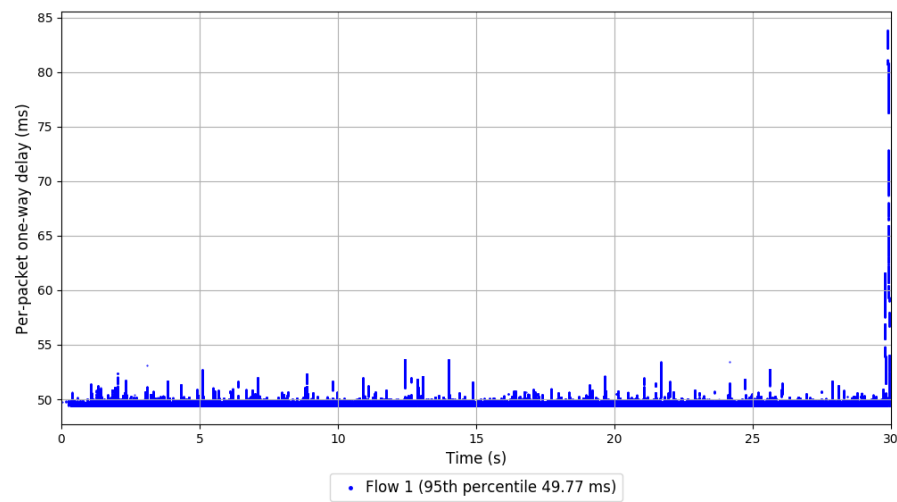
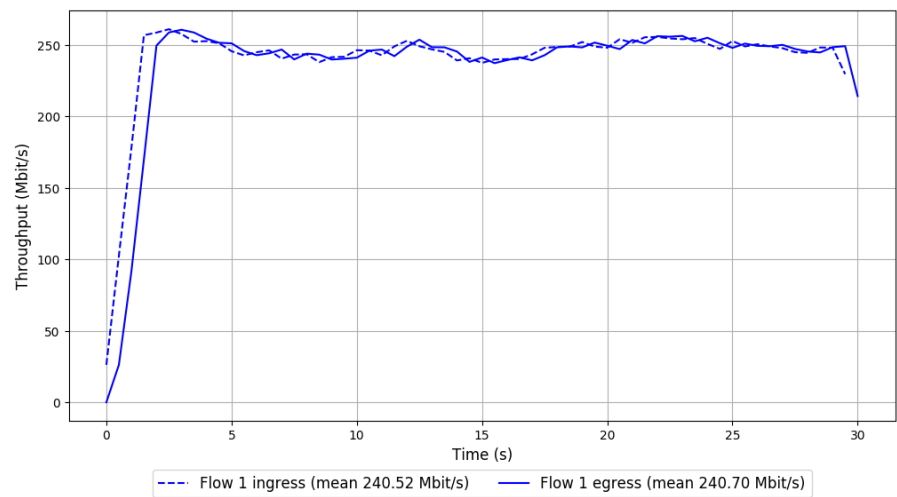
-- Flow 1:

Average throughput: 240.70 Mbit/s

95th percentile per-packet one-way delay: 49.766 ms

Loss rate: 0.27%

Run 5: Report of TaoVA-100x — Data Link

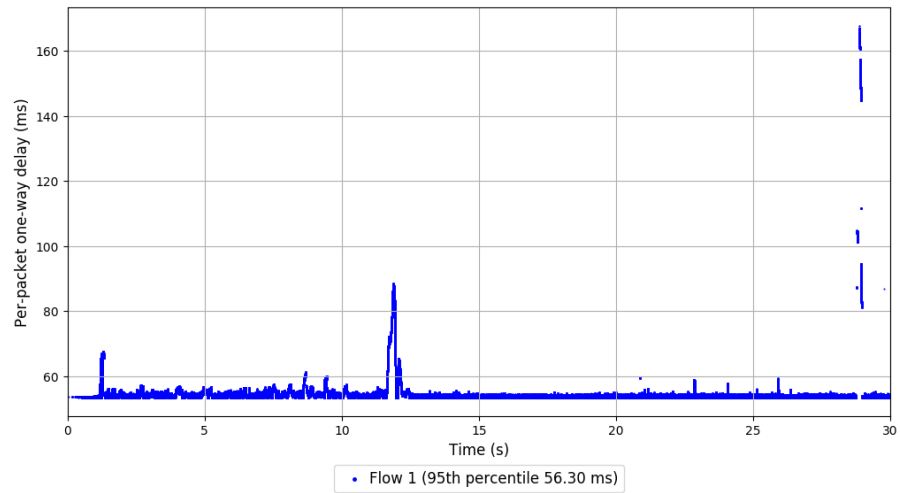
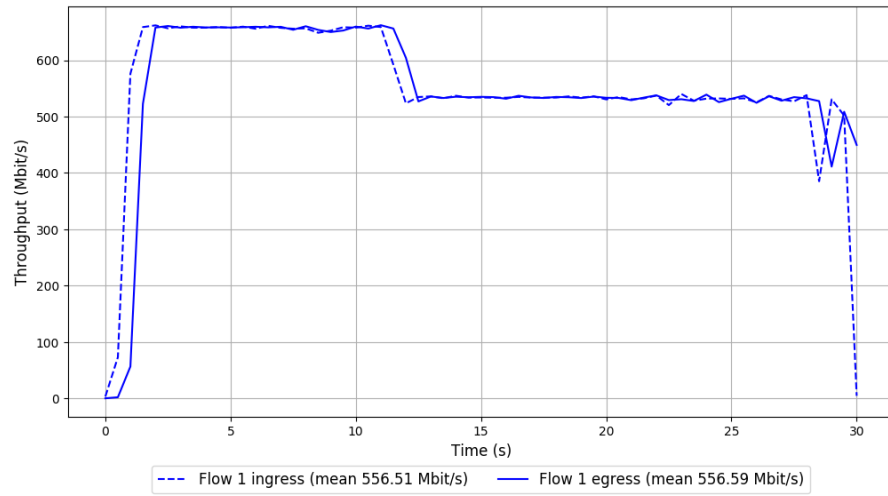


Run 1: Statistics of TCP Vegas

Start at: 2018-09-11 16:17:29
End at: 2018-09-11 16:18:00
Local clock offset: -0.169 ms
Remote clock offset: -0.072 ms

Below is generated by plot.py at 2018-09-11 20:03:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 556.59 Mbit/s
95th percentile per-packet one-way delay: 56.302 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 556.59 Mbit/s
95th percentile per-packet one-way delay: 56.302 ms
Loss rate: 0.34%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-09-11 16:43:28

End at: 2018-09-11 16:43:58

Local clock offset: -0.045 ms

Remote clock offset: 0.009 ms

Below is generated by plot.py at 2018-09-11 20:04:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 529.60 Mbit/s

95th percentile per-packet one-way delay: 51.435 ms

Loss rate: 0.18%

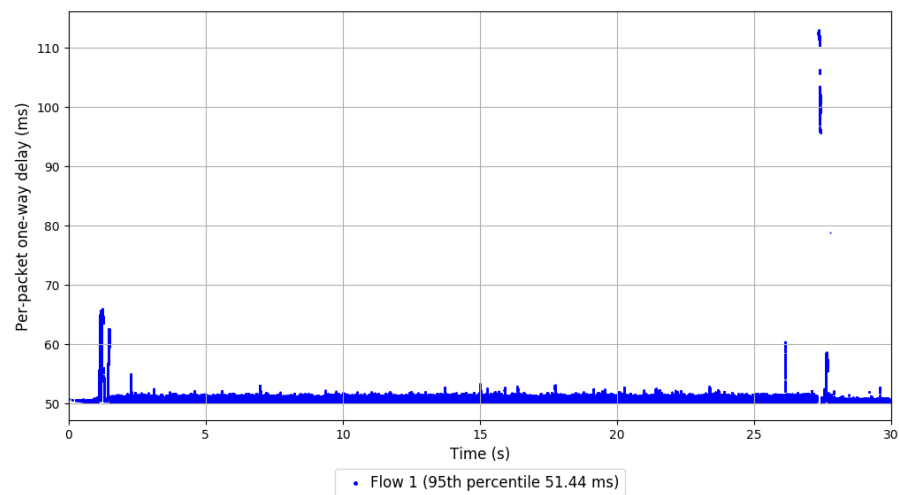
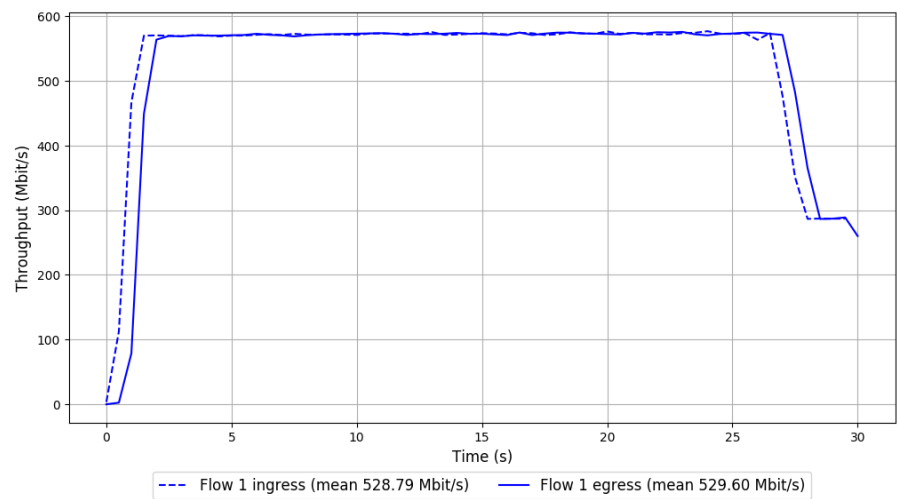
-- Flow 1:

Average throughput: 529.60 Mbit/s

95th percentile per-packet one-way delay: 51.435 ms

Loss rate: 0.18%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-09-11 17:09:32

End at: 2018-09-11 17:10:02

Local clock offset: -0.024 ms

Remote clock offset: 0.869 ms

Below is generated by plot.py at 2018-09-11 20:05:04

Datalink statistics

-- Total of 1 flow:

Average throughput: 528.62 Mbit/s

95th percentile per-packet one-way delay: 52.904 ms

Loss rate: 0.17%

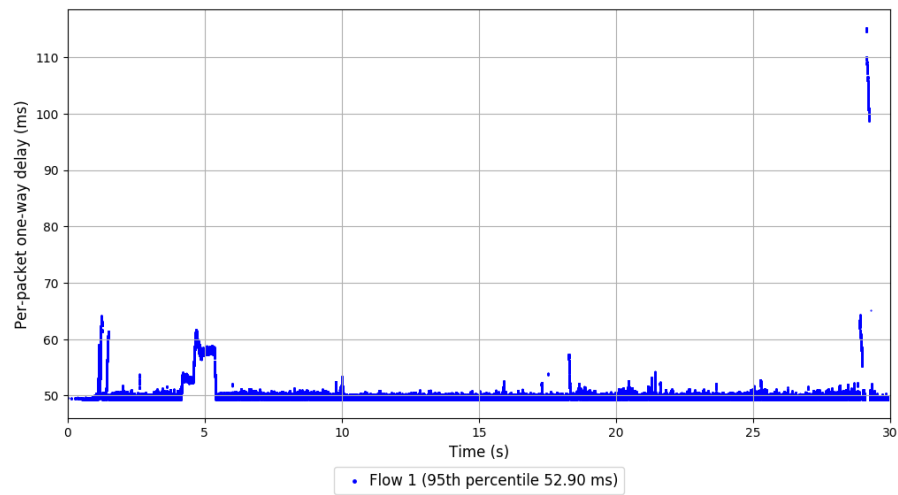
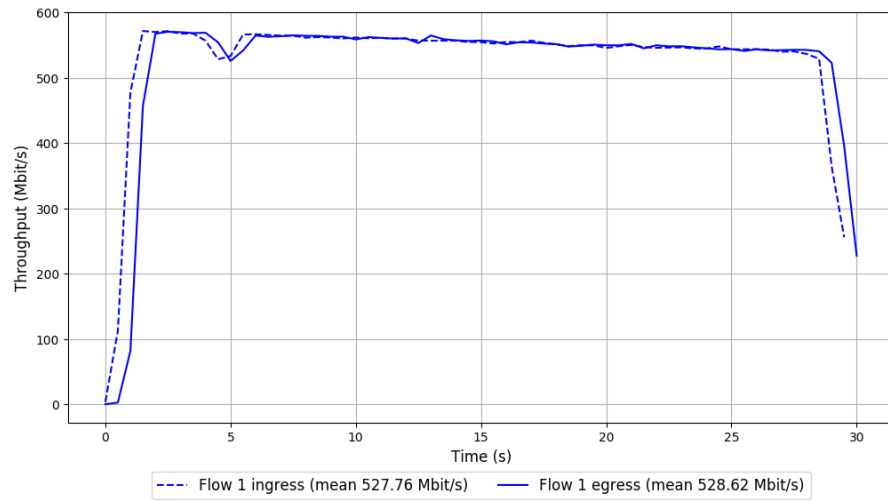
-- Flow 1:

Average throughput: 528.62 Mbit/s

95th percentile per-packet one-way delay: 52.904 ms

Loss rate: 0.17%

Run 3: Report of TCP Vegas — Data Link

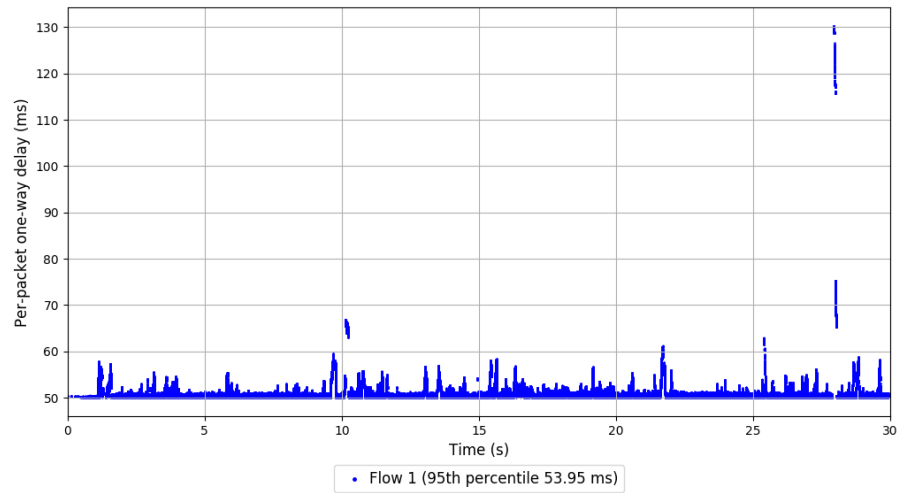
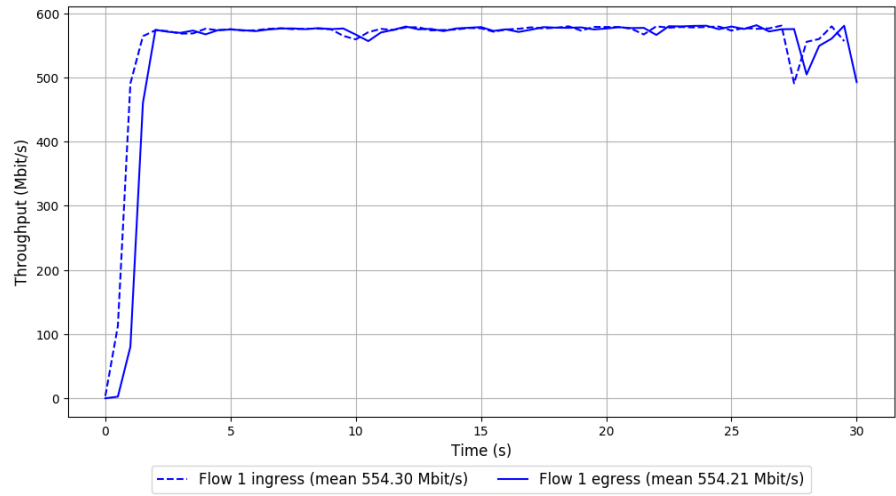


Run 4: Statistics of TCP Vegas

Start at: 2018-09-11 17:35:38
End at: 2018-09-11 17:36:08
Local clock offset: 0.113 ms
Remote clock offset: -0.027 ms

Below is generated by plot.py at 2018-09-11 20:09:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 554.21 Mbit/s
95th percentile per-packet one-way delay: 53.948 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 554.21 Mbit/s
95th percentile per-packet one-way delay: 53.948 ms
Loss rate: 0.35%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2018-09-11 18:01:54

End at: 2018-09-11 18:02:24

Local clock offset: 0.025 ms

Remote clock offset: 0.079 ms

Below is generated by plot.py at 2018-09-11 20:11:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 617.38 Mbit/s

95th percentile per-packet one-way delay: 104.618 ms

Loss rate: 0.49%

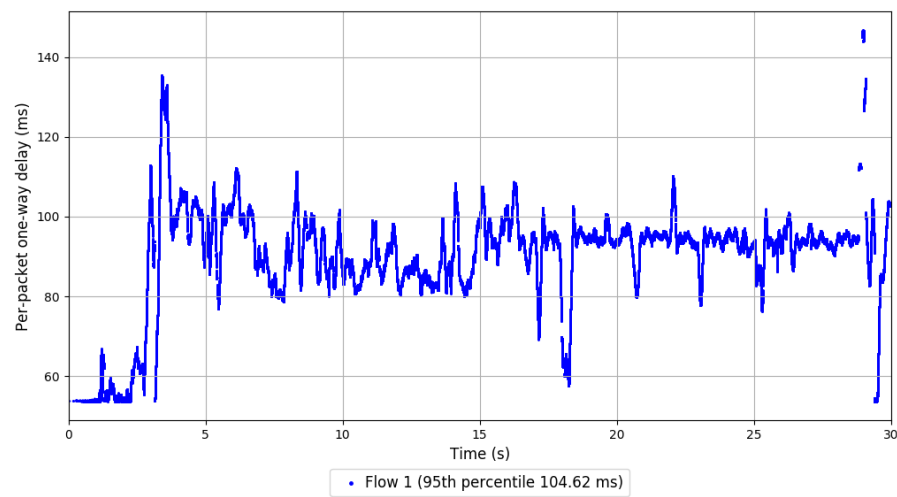
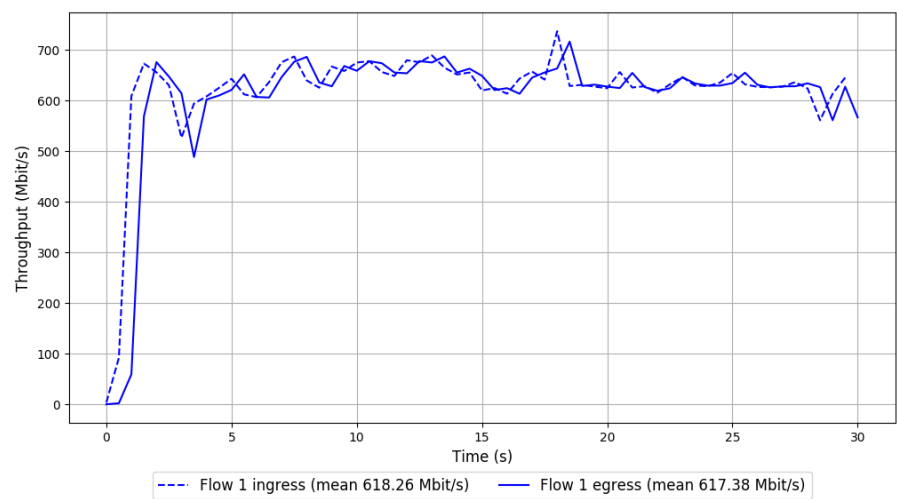
-- Flow 1:

Average throughput: 617.38 Mbit/s

95th percentile per-packet one-way delay: 104.618 ms

Loss rate: 0.49%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-09-11 16:25:05

End at: 2018-09-11 16:25:35

Local clock offset: -0.115 ms

Remote clock offset: 0.941 ms

Below is generated by plot.py at 2018-09-11 20:11:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 154.36 Mbit/s

95th percentile per-packet one-way delay: 72.908 ms

Loss rate: 0.06%

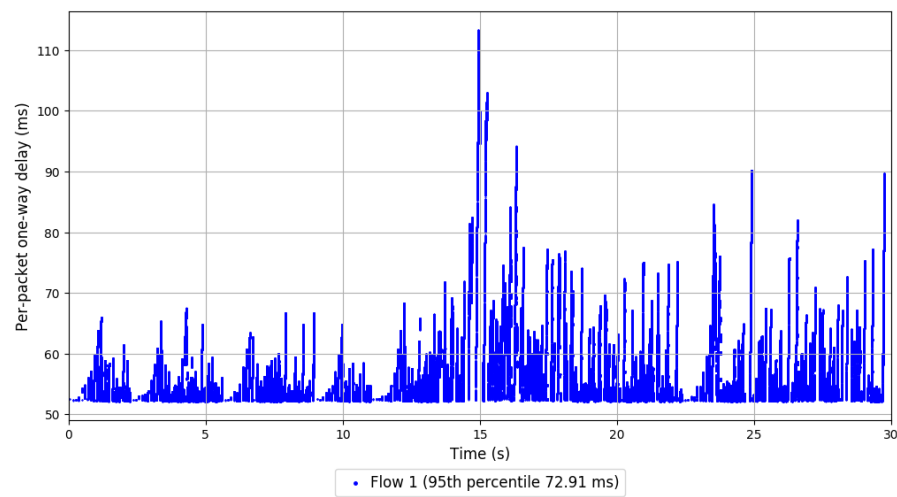
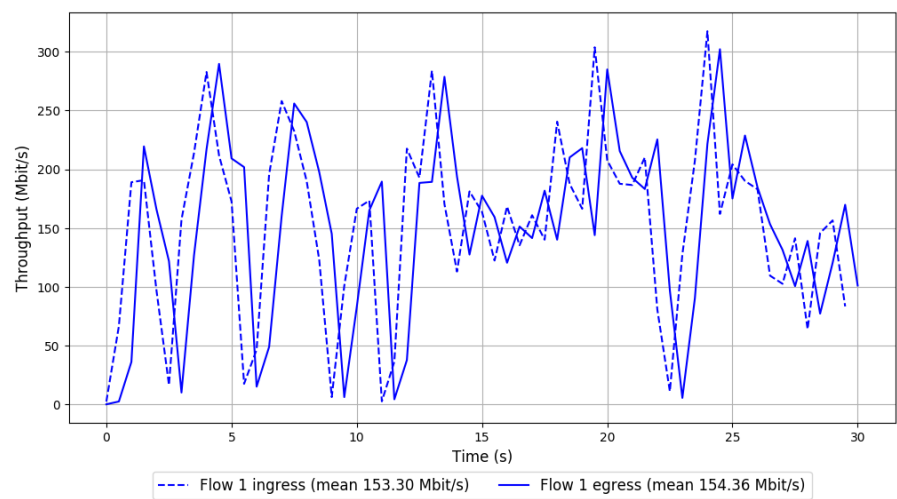
-- Flow 1:

Average throughput: 154.36 Mbit/s

95th percentile per-packet one-way delay: 72.908 ms

Loss rate: 0.06%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-09-11 16:51:05

End at: 2018-09-11 16:51:35

Local clock offset: -0.064 ms

Remote clock offset: 1.011 ms

Below is generated by plot.py at 2018-09-11 20:11:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 200.52 Mbit/s

95th percentile per-packet one-way delay: 166.231 ms

Loss rate: 1.39%

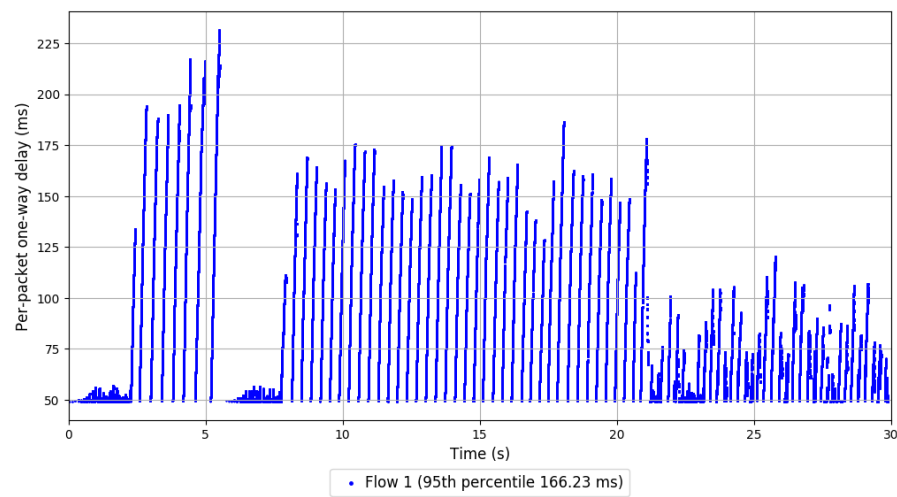
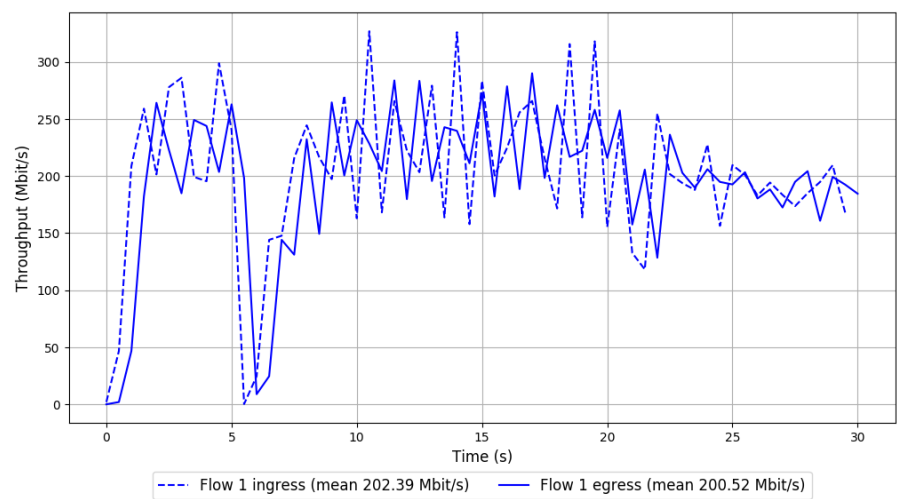
-- Flow 1:

Average throughput: 200.52 Mbit/s

95th percentile per-packet one-way delay: 166.231 ms

Loss rate: 1.39%

Run 2: Report of Verus — Data Link

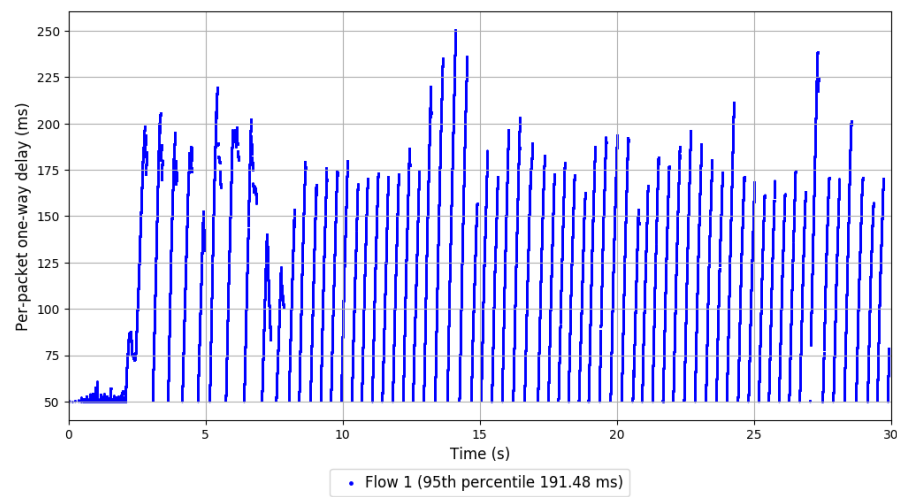
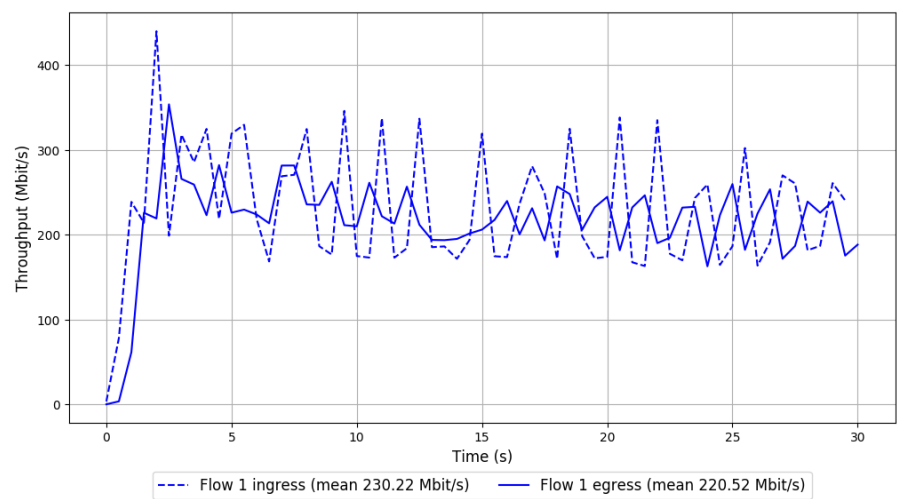


Run 3: Statistics of Verus

Start at: 2018-09-11 17:17:05
End at: 2018-09-11 17:17:35
Local clock offset: -0.045 ms
Remote clock offset: -0.062 ms

Below is generated by plot.py at 2018-09-11 20:11:12
Datalink statistics
-- Total of 1 flow:
Average throughput: 220.52 Mbit/s
95th percentile per-packet one-way delay: 191.483 ms
Loss rate: 4.41%
-- Flow 1:
Average throughput: 220.52 Mbit/s
95th percentile per-packet one-way delay: 191.483 ms
Loss rate: 4.41%

Run 3: Report of Verus — Data Link

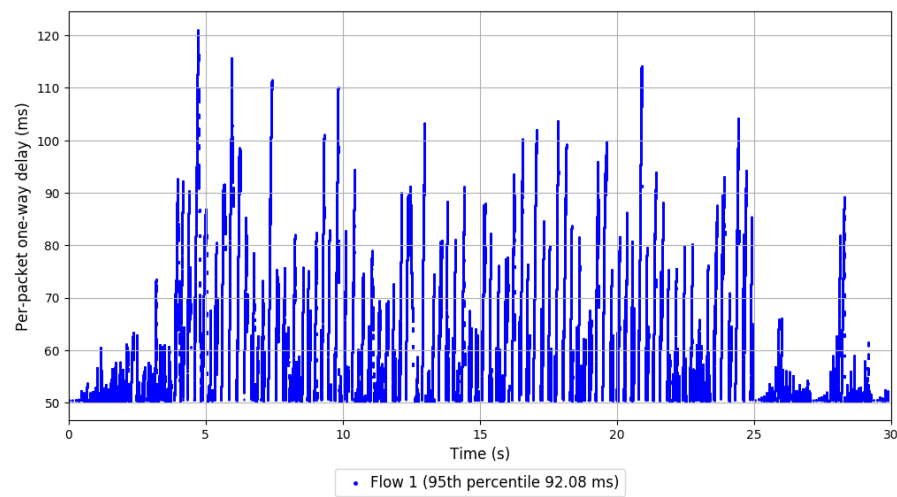
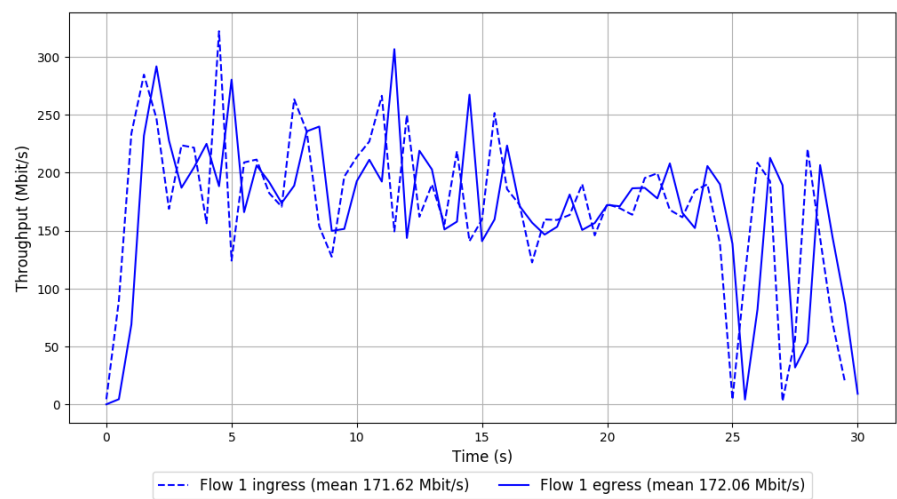


Run 4: Statistics of Verus

Start at: 2018-09-11 17:43:20
End at: 2018-09-11 17:43:50
Local clock offset: 0.118 ms
Remote clock offset: -0.298 ms

Below is generated by plot.py at 2018-09-11 20:11:12
Datalink statistics
-- Total of 1 flow:
Average throughput: 172.06 Mbit/s
95th percentile per-packet one-way delay: 92.082 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 172.06 Mbit/s
95th percentile per-packet one-way delay: 92.082 ms
Loss rate: 0.09%

Run 4: Report of Verus — Data Link

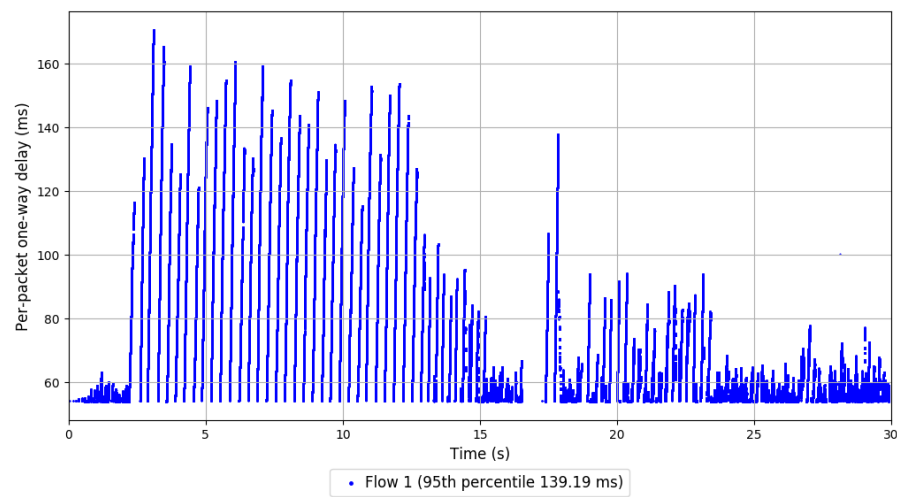
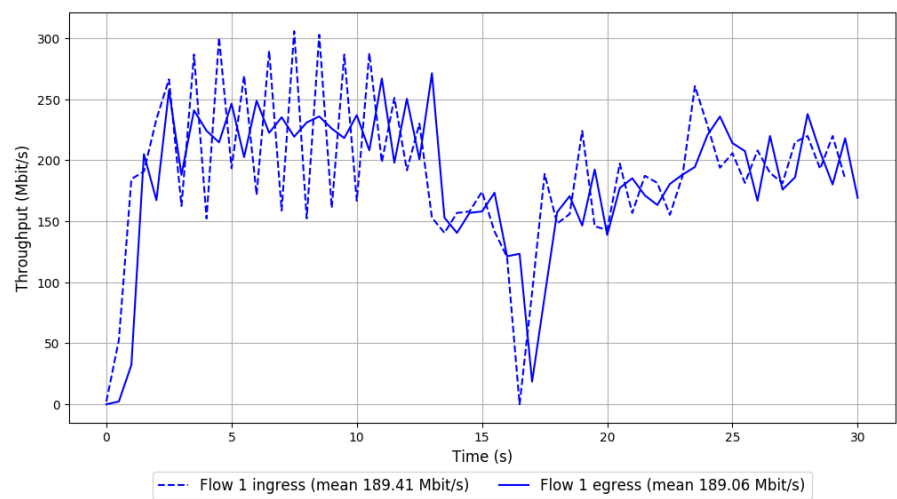


Run 5: Statistics of Verus

Start at: 2018-09-11 18:09:37
End at: 2018-09-11 18:10:07
Local clock offset: 0.075 ms
Remote clock offset: -0.506 ms

Below is generated by plot.py at 2018-09-11 20:11:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 189.06 Mbit/s
95th percentile per-packet one-way delay: 139.194 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 189.06 Mbit/s
95th percentile per-packet one-way delay: 139.194 ms
Loss rate: 0.45%

Run 5: Report of Verus — Data Link

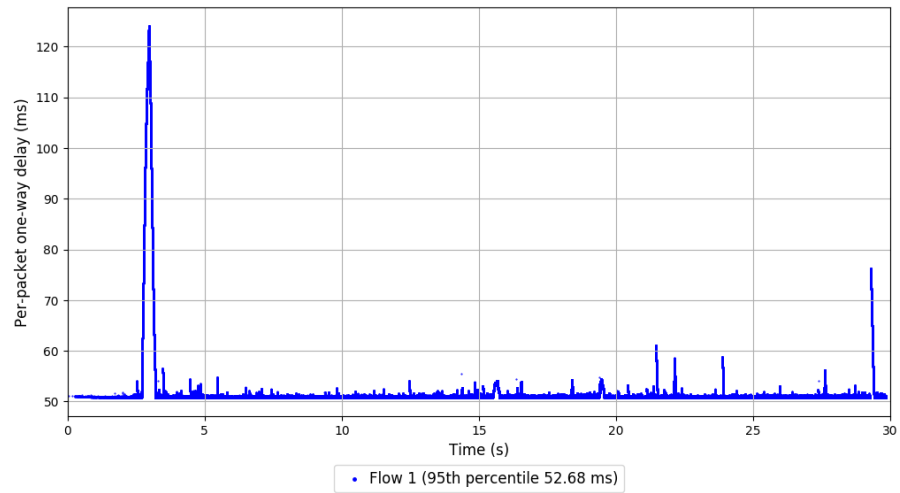
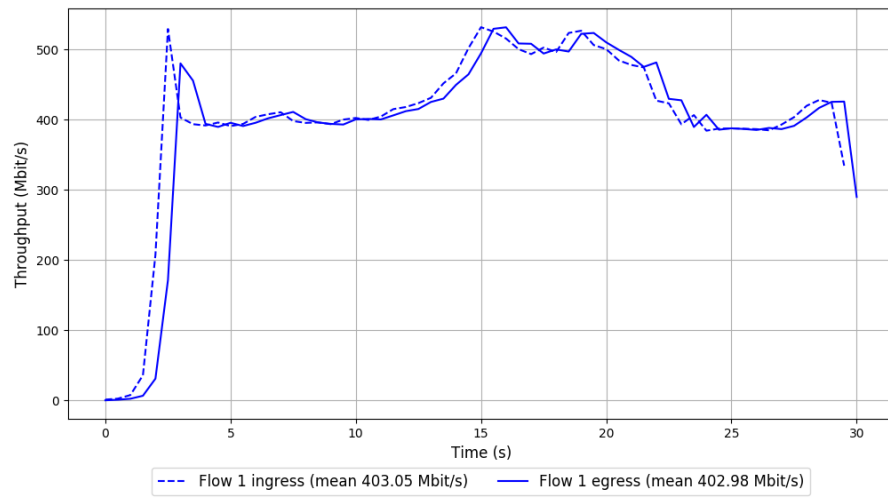


Run 1: Statistics of PCC-Vivace

Start at: 2018-09-11 16:29:03
End at: 2018-09-11 16:29:33
Local clock offset: -0.017 ms
Remote clock offset: -0.958 ms

Below is generated by plot.py at 2018-09-11 20:12:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 402.98 Mbit/s
95th percentile per-packet one-way delay: 52.678 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 402.98 Mbit/s
95th percentile per-packet one-way delay: 52.678 ms
Loss rate: 0.37%

Run 1: Report of PCC-Vivace — Data Link

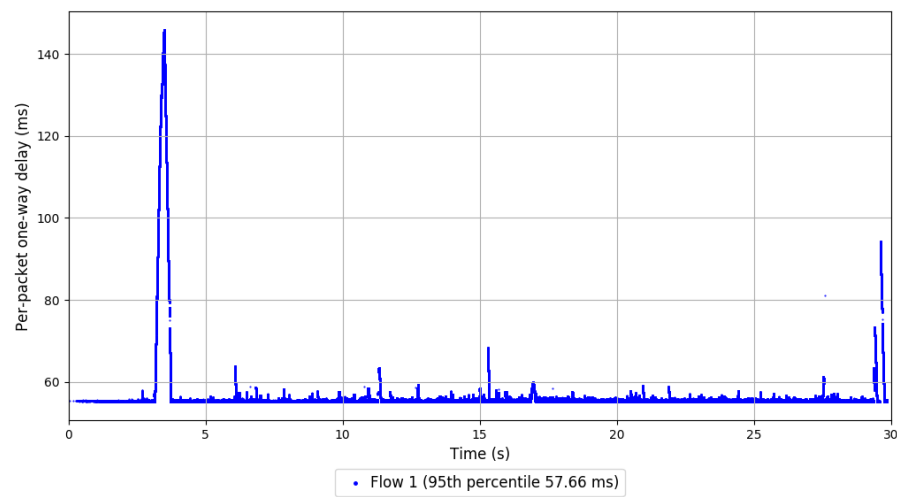
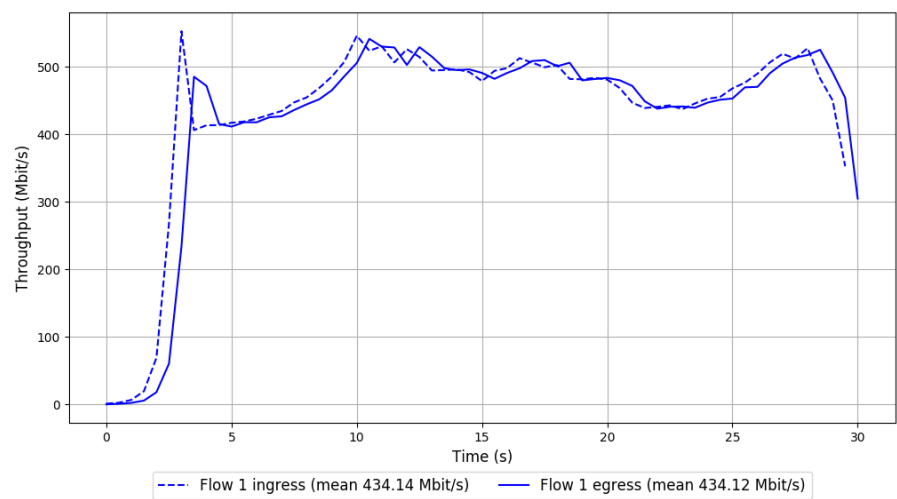


Run 2: Statistics of PCC-Vivace

Start at: 2018-09-11 16:55:07
End at: 2018-09-11 16:55:37
Local clock offset: 0.111 ms
Remote clock offset: -1.365 ms

Below is generated by plot.py at 2018-09-11 20:12:51
Datalink statistics
-- Total of 1 flow:
Average throughput: 434.12 Mbit/s
95th percentile per-packet one-way delay: 57.660 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 434.12 Mbit/s
95th percentile per-packet one-way delay: 57.660 ms
Loss rate: 0.37%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-09-11 17:21:15

End at: 2018-09-11 17:21:45

Local clock offset: 0.008 ms

Remote clock offset: -0.05 ms

Below is generated by plot.py at 2018-09-11 20:12:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 361.61 Mbit/s

95th percentile per-packet one-way delay: 52.149 ms

Loss rate: 0.22%

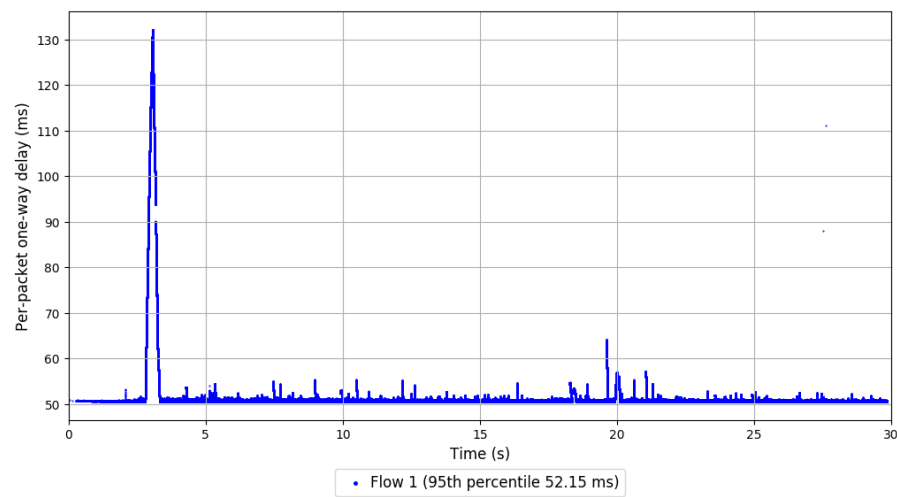
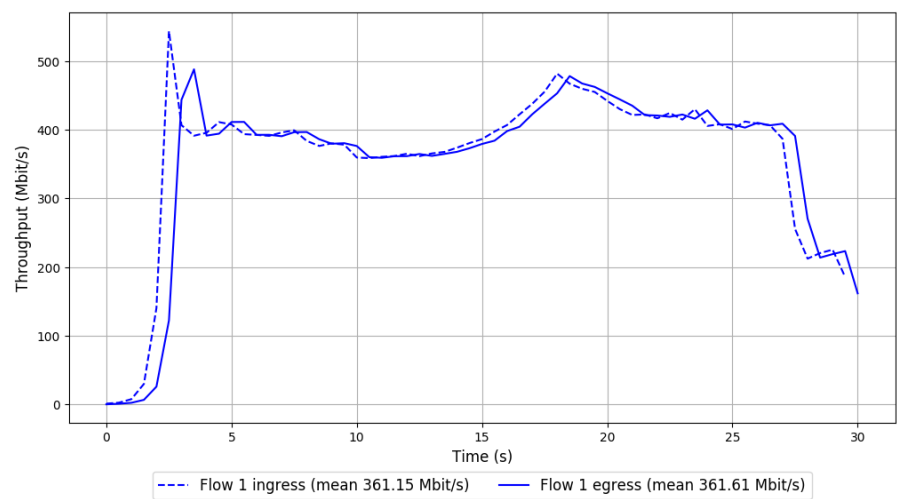
-- Flow 1:

Average throughput: 361.61 Mbit/s

95th percentile per-packet one-way delay: 52.149 ms

Loss rate: 0.22%

Run 3: Report of PCC-Vivace — Data Link

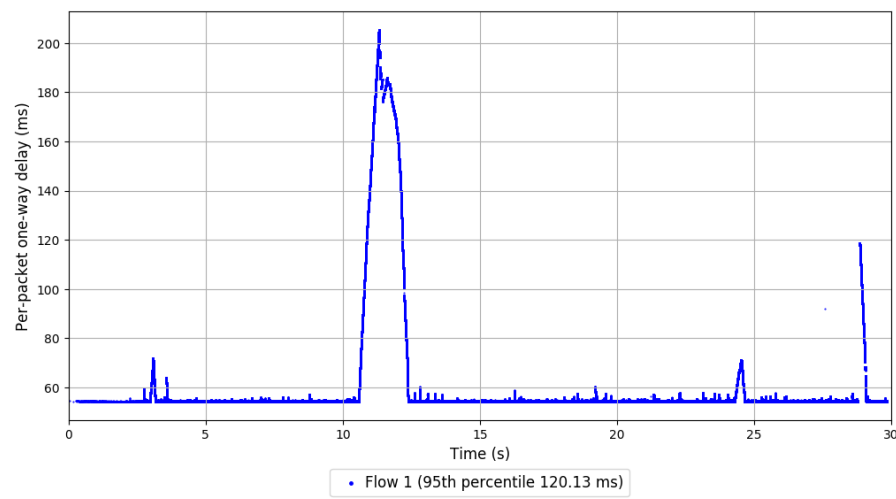
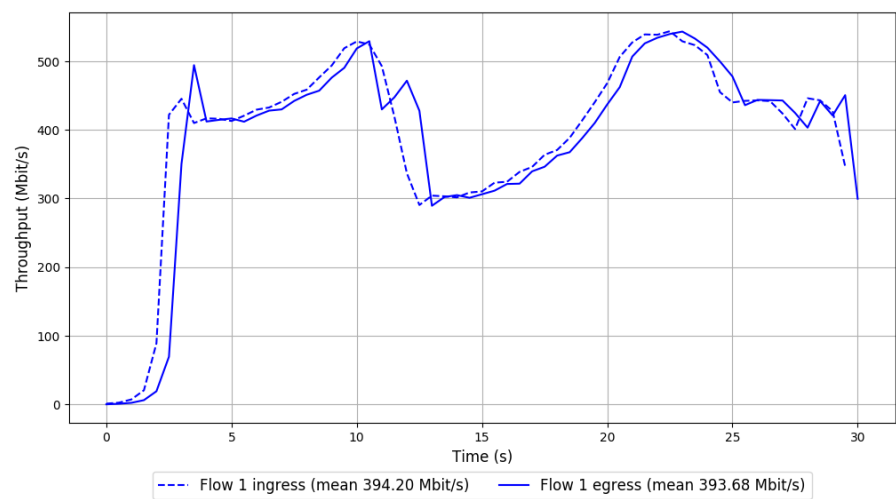


Run 4: Statistics of PCC-Vivace

Start at: 2018-09-11 17:47:29
End at: 2018-09-11 17:47:59
Local clock offset: -0.096 ms
Remote clock offset: -0.841 ms

Below is generated by plot.py at 2018-09-11 20:13:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 393.68 Mbit/s
95th percentile per-packet one-way delay: 120.128 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 393.68 Mbit/s
95th percentile per-packet one-way delay: 120.128 ms
Loss rate: 0.49%

Run 4: Report of PCC-Vivace — Data Link

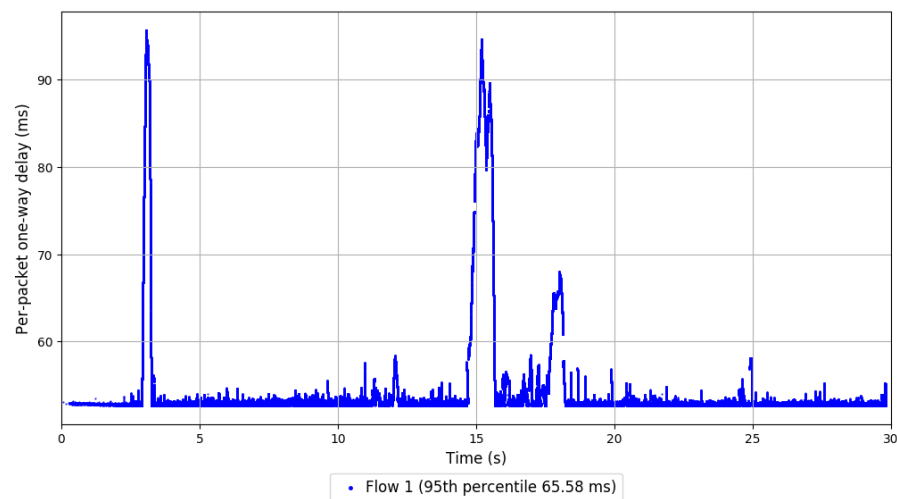
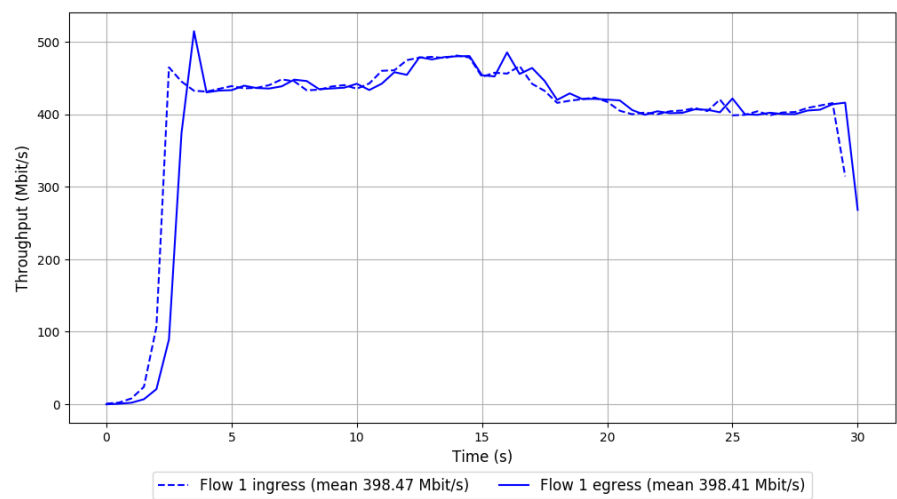


Run 5: Statistics of PCC-Vivace

Start at: 2018-09-11 18:13:44
End at: 2018-09-11 18:14:14
Local clock offset: -0.207 ms
Remote clock offset: -0.165 ms

Below is generated by plot.py at 2018-09-11 20:13:40
Datalink statistics
-- Total of 1 flow:
Average throughput: 398.41 Mbit/s
95th percentile per-packet one-way delay: 65.575 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 398.41 Mbit/s
95th percentile per-packet one-way delay: 65.575 ms
Loss rate: 0.37%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-09-11 16:36:48

End at: 2018-09-11 16:37:19

Local clock offset: 0.004 ms

Remote clock offset: 0.665 ms

Below is generated by plot.py at 2018-09-11 20:13:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.62 Mbit/s

95th percentile per-packet one-way delay: 52.896 ms

Loss rate: 0.57%

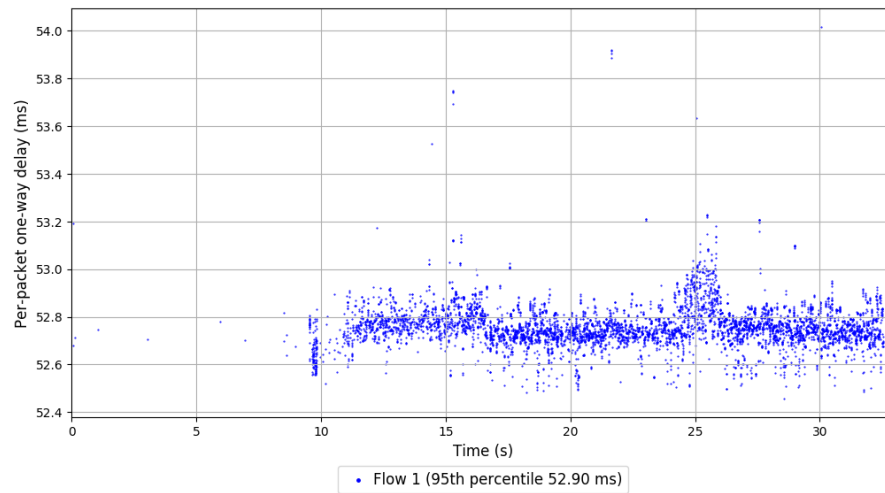
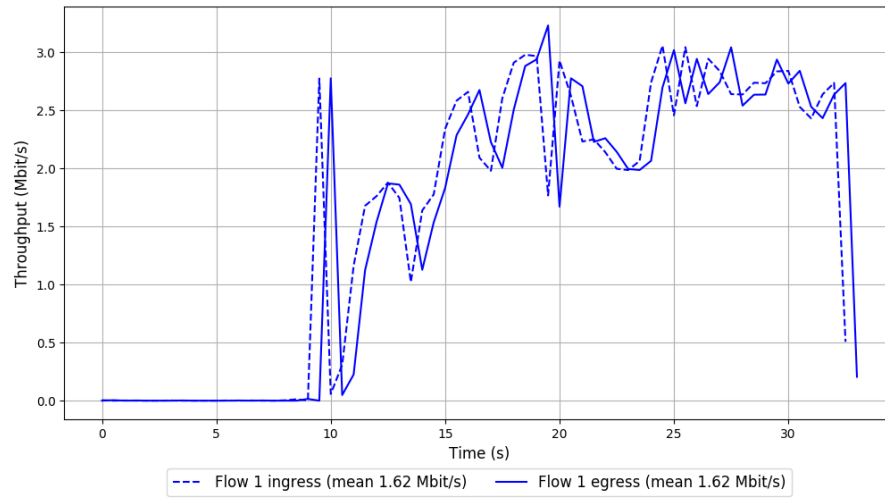
-- Flow 1:

Average throughput: 1.62 Mbit/s

95th percentile per-packet one-way delay: 52.896 ms

Loss rate: 0.57%

Run 1: Report of WebRTC media — Data Link

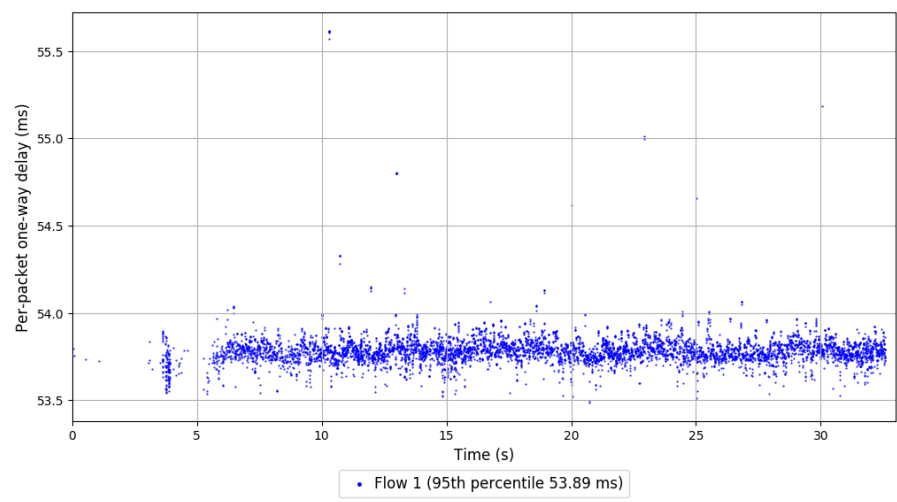
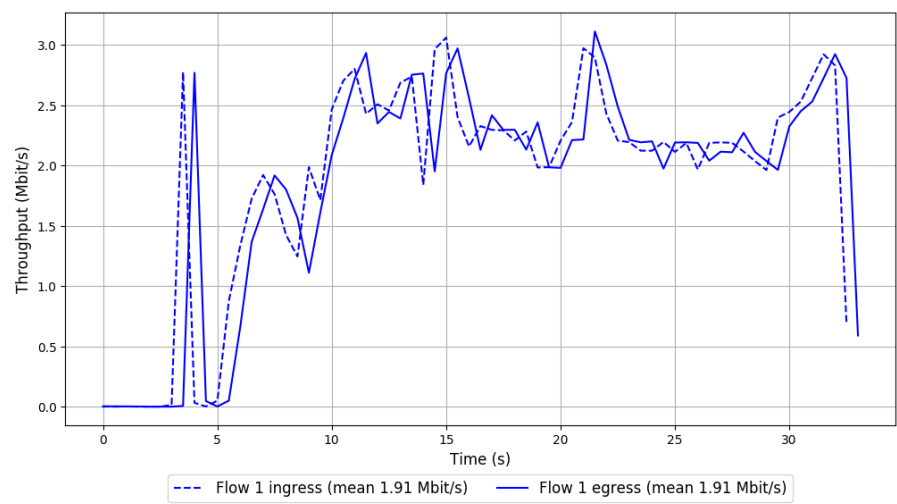


Run 2: Statistics of WebRTC media

Start at: 2018-09-11 17:02:54
End at: 2018-09-11 17:03:24
Local clock offset: -0.053 ms
Remote clock offset: -0.009 ms

Below is generated by plot.py at 2018-09-11 20:13:40
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 53.892 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 53.892 ms
Loss rate: 0.39%

Run 2: Report of WebRTC media — Data Link

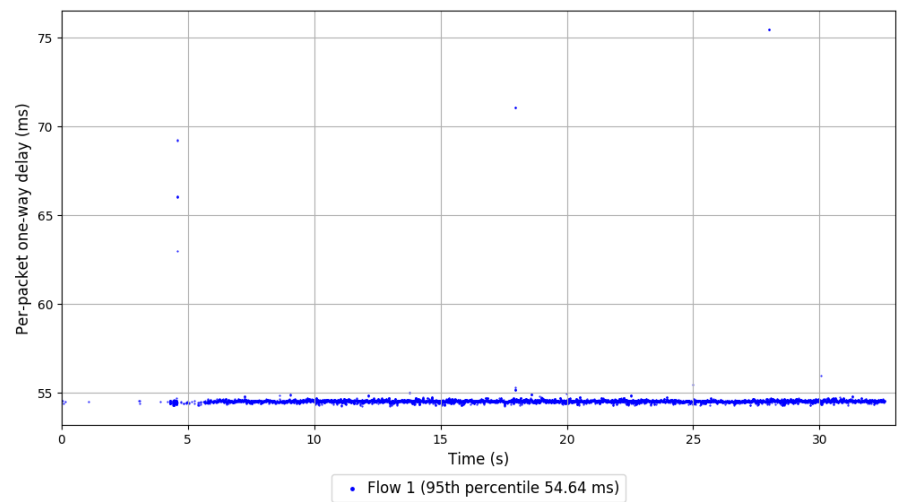
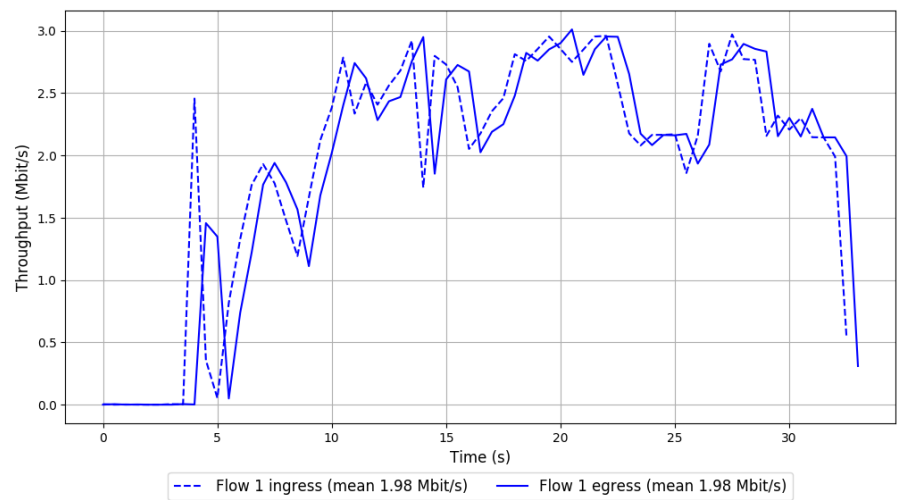


Run 3: Statistics of WebRTC media

Start at: 2018-09-11 17:28:59
End at: 2018-09-11 17:29:29
Local clock offset: 0.045 ms
Remote clock offset: -0.616 ms

Below is generated by plot.py at 2018-09-11 20:13:40
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 54.644 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 54.644 ms
Loss rate: 0.36%

Run 3: Report of WebRTC media — Data Link

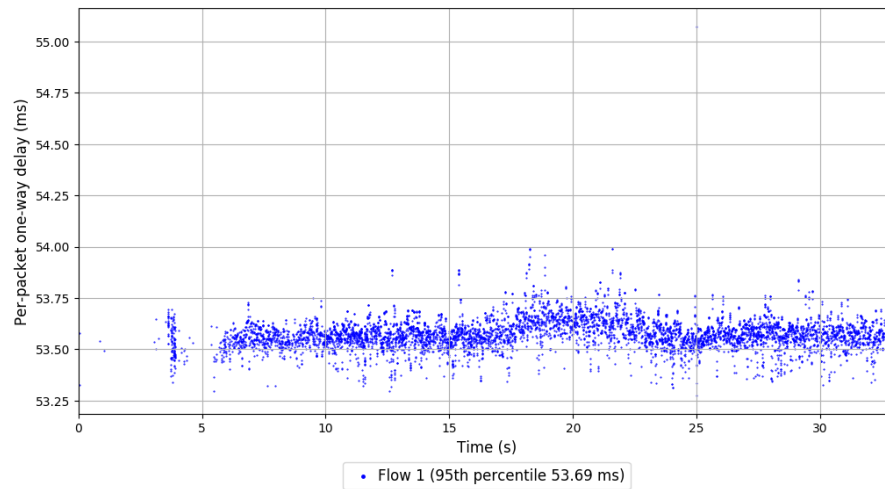
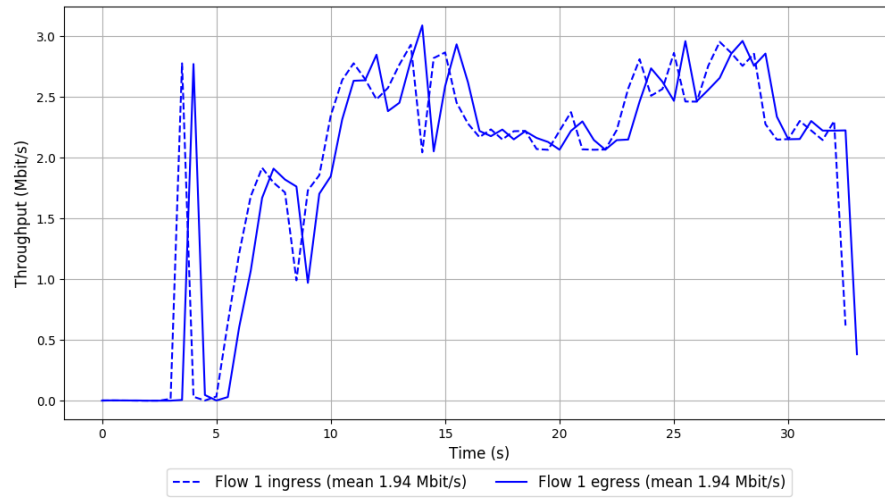


Run 4: Statistics of WebRTC media

Start at: 2018-09-11 17:55:12
End at: 2018-09-11 17:55:42
Local clock offset: -0.342 ms
Remote clock offset: -0.214 ms

Below is generated by plot.py at 2018-09-11 20:13:40
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 53.689 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 53.689 ms
Loss rate: 0.37%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-09-11 18:21:28
End at: 2018-09-11 18:21:58
Local clock offset: 0.194 ms
Remote clock offset: -0.207 ms

Below is generated by plot.py at 2018-09-11 20:13:40
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 50.723 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 50.723 ms
Loss rate: 0.37%

Run 5: Report of WebRTC media — Data Link

